614 Public Health — Montana

29th Biennial Report

MONTANA
STATE BOARD OF
HEALTH

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The twenty-ninth biennial report has been prepared to fill the 1901 legislative requirement that the State Board of Health "shall, at the opening of each session of the legislative assembly, submit to the assembly, through the governor, a full report of all its investigations and such suggestions and recommendations which will result from such investigations and also, such additional recommendations in the matter of public health in this state, as it shall deem proper . . . it shall gather such information . . . for diffusion among and use by the people."

PHOTOGRAPHS ON COVER — back and front depict some of the State Board of Health activities. The description below for each begins with No. 1, the top picture on the front cover and No. 6 is the top picture on the back.

FRONT COVER

1. **Dental Survey.** A preliminary dental survey was made in Bozeman to determine the effects of the controlled fluoridation of the public water supply. This survey, carried on by the local dentists with assistance from the State Board of Health, found that an overall reduction of 26% in dental caries had already been accomplished. The fluoridation had been in effect only three years at the time of the survey.
2. **Plans** for school buildings, water plants and sewage disposal systems, hospitals and medical facilities, are some of the plans reviewed by the State Board of Health staff before approval for construction is given.
3. **Supervision and consultation to local public health nurses** is a major activity of the Public Health Nursing Division. Pictured here is a local public health nurse taking a specimen for laboratory examination to assist the physician in the diagnosis of diphtheria.
4. **At the Center** for Cerebral Palsy and Handicapped Children in Billings, speech therapy is available for those with any type of speech defect. "Blowing bubbles" teaches breath control, an important function to master in children with cerebral palsy, cleft palate and other conditions affecting speech and hearing. Children with cerebral palsy and cleft palate make up a large portion of the Center's case load.
5. **Stream Pollution work is done** with the assistance of a special team employed during the summer months. Two members of the team are shown here getting specimens for examination from the Missouri River.

BACK COVER

6. **Industrial Hygiene Engineer examines** tunnel for presence of Benzol Vapor and Oxides of Nitrogen.
7. **One of the hospital facilities projects utilizing** some Federal funds was a part of the State Board of Health section of the State Laboratory Building in Helena. It is now occupied by the Virus Laboratory, the Chemistry Laboratory and the Division of Disease Control. The Bacteriology Laboratory will move in early in the next biennium as will the Division of Environmental Sanitation. Other State Board of Health offices now temporarily occupying some of the space in this section of the building will need to move to the old State Board of Health Building when remodeled or to other State or rented offices.
8. **Visual aids** are some of the tools used in the Board's health education program. Staff members are shown here making an exhibit to show the work of the Cleft Lip-Cleft Palate program.
9. **Laboratory services are fundamental** to the control of many diseases. Some of the work of a bacteriologist is shown here.
10. **Public Health personnel carry on many of their activities by working with groups of people.** Committee meetings are participated in with both professional health workers and community groups.

BIENNIAL REPORT
July 1, 1956 - June 30, 1958

MONTANA
STATE BOARD OF HEALTH

MONTANA STATE BOARD OF HEALTH

(July 1, 1956 - June 30, 1958)

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* Term expired June 30, 1957
** Elected Vice-President, July 1957
*** Appointed July 1, 1957
**** Term expired June 30, 1956, continued to serve until replaced on Jan. 26, 1957
***** Appointed Jan. 26, 1957

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Montana pays tribute to . . .

several pioneer and long time public health workers who have made lasting contributions to the people of this State and who either died or retired during this biennium .

WM. F. COGSWELL, M.D. (1869-1956)

Dr. Cogswell was the Executive Officer of the State Board of Health from 1912-1946.

As a pioneer in the public health field and serving Montana for 34 years, Dr. Cogswell initiated many of Montana's existing public health laws, public health rules and regulations, and public health programs. Many of them were far sighted enough to remain suitable for needs of today.

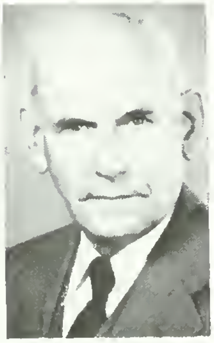
HENRIETTA CROCKETT, R.N. (1878-1956)

Mrs. Crockett was continuously engaged in public health work in Montana for 35 years, from 1915 until her retirement in 1950. During the first 17 years of this period, she served as field nurse for the Montana State Board of Health. From 1932 until her retirement, she served as executive secretary of the Montana Tuberculosis Association. Her very special interest was in the promotion of improved health among the Indians of the State.

FRANK I. TERRILL, M.D. (1901-1958)

Dr. Terrill was the superintendent of the Montana State Sanatorium for 20 years until the time of his death and had been on the medical staff there since 1929, contributing to the health of Montanans for 29 years.

During all of his professional life, Dr. Terrill was active in the Montana Tuberculosis Association, and for many years was chairman of the Tuberculosis Committee of the Montana Medical Association. He provided consultation throughout the State in the care of the tuberculous. His patients always remembered him for his intense individual interest in them.



B. K. KILBOURNE, M.D. (1879-1957)

Dr. Kilbourne came to Montana in 1935 as the epidemiologist for the State Board of Health and from 1946 to 1950 was its executive officer. From 1950 until his retirement, just two months before his death, he was the public health officer of Public Health District I (Big Horn and Rosebud Counties) at Hardin, making a total of 23 years of public health work in Montana.

Dr. Kilbourne's contributions to public health will continue to be of value and significance, especially in the field of child health.

AAGOT LIAN, R.N.

Miss Lian served for 37 of her 41 years in public health nursing in Montana. This is the longest period of service for any Montana Public Health Nurse. She retired in 1957 after 52 years in nursing. She will long be remembered as a friend of the families she served and for her zeal in striving for better community health service.

LUCIEN L. BENEPE

Mr. Benepe, state registrar of vital statistics, retired on July 3, 1957 after 35 years of service. He saw the population of the State rise from 544,000 to 675,000.

A. D. BREWER, M.D. (1875-1957)

Dr. Brewer was one of Montana's pioneer full-time health officers. He served Gallatin County from May 1, 1929 until his retirement in 1948, except from December 1, 1943 to May 1, 1945. This made a total of 19 years of public health service. During this interval he was a physician on the staff at the State Tuberculosis Sanatorium at Galen. The continuation and growth of the Gallatin Health Department are based on the foundation laid under his direction.

MRS. MABEL MORAN, R.N.

Mrs. Moran retired from the staff of the Great Falls City-County Health Department on August 1, 1958, after 15 years of service. She had been employed on the nursing staff of this department since 1943. Mrs. Moran developed special interest in the health of the Indian families living in and around Great Falls.

MRS. ALICE KRAFT, R.N.

Mrs. Kraft who had been on the Yellowstone County Public Health Nursing staff from 1943-1944 and from 1948 until her retirement on July 1, 1958, contributed much to the district in which she served during these 11 years. This district comprised the Billings public school area for most of the time she worked in Billings.

Highlights of Biennium

All major industries of State studied and recommendations made where necessary for protection of workers' health.

Richland County Citizens, planning with local physicians, surveyed immunization status of all children from infancy through second grade. Found status lower than expected. From 1/3 to 1/2 of the children were unprotected from some preventable diseases.

Controlled fluoridation of public water supply started in Laurel.

774,558 c.c.'s of polio vaccine were received in Montana from the beginning of the voluntary control program until June 30, 1958. Of this amount 259,872 c.c.'s were purchased with Federal funds.

Five studies on maternal and infant mortality were made by Maternal & Child Welfare Committee of M.M.A. and S.B.H.

Cancer and Tuberculosis Register information adapted to IBM equipment.

Hospital Construction hits all-time high with 16 projects underway utilizing $2,621,977.26 in Federal funds with a total cost of $10,354,000.00.

Dental Surveys completed in Butte, Sidney, Fairview, Circle and Lewistown.

Rheumatic Fever Center changed to Rheumatic Fever and Heart Diagnostic Center. Cardiac catherizations and angiocardiography done in State for first time in diagnosis of heart disease.

State inter-agency committee formed on the Control of Alcoholism to coordinate and improve activities in this program.

Gallatin County provided field training experience in public health nursing for 38 nurses in M.S.C. program. Cascade to start Sept. 1958.

Influenza Highest on Record during 1957 since 1918.

Board began enforcement of its 1952 warning to several municipalities that discharging untreated sewage into Montana streams must stop. Five-year warning period ended July 1, 1957.

32 sewage treatment plants constructed in last five years; 10 of them this biennium. Formal Board order issued to one and negotiations with others continued to seek completion at earliest possible date. 21 of the 32 received Federal funds in the amount of $944,274.

Four new municipal water supplies completed during biennium; 14 communities improved and expanded water supplies.

Eating and drinking establishment sanitation surveys have been completed in sixteen communities by local and State staffs. **Seventy-seven training sessions were conducted** for 1,017 food service workers.

Board adopted revised regulations for: school buildings, and eating and drinking establishments.

Established regulations for: bakery and manufacturing confectioneries, food vending machines, labeling of special purpose foods, trailer courts, and definitions and standards for bakery products.

Clark Fork River study completed. Bacteriological, biological and chemical studies continued on Missouri, Yellowstone and Kootenai Rivers.

Water Pollution Council Active. Adopted water use and water quality criteria for stream classification. Adopted 4-year program for stream classification and held hearing on Yellowstone River. Scheduled hearings for early in next biennium on Clark Fork and Kootenai Rivers.

Communicable Disease Charts for Schools revised and distributed. School Environment Guide completed and distributed.

Center for Cerebral Palsy and Handicapping Conditons improved to provide more of original objectives.

Three state conferences on Rehabilitation held. State Rehabilitation Association formed in January, 1958.

Microfilming Equipment installed for more efficient transmission of birth and death information and to conserve vault space. Photographic methods also initiated for verification and certification of birth certificates.

Business and Industry Subcommittee on problems of Alcohol formed by Narcotic and Alcoholism Advisory Committee. State conference to be sponsored in October, 1958.

Local conferences on alcoholism held in Great Falls, Billings and Lake-Sanders Counties with permanent local committees formed.

Montana's three Cleft Lip-Cleft Palate teams among 46 in the nation. They made 248 separate evaluations.

State Committee on Maternal and Newborn Care formed following June 1957 State-wide Institute. Second Institute planned for July, 1958.

Indian Health Program improved in P.H. Dists. I & II, through SBH contractual program and financial arrangements with U.S.P.H.S. Division of Indian Health

Virus Laboratory started functioning, with major assistance on Asian Influenza outbreak and Browning polio epidemic.

Cancer Seminars for teachers held in Bozeman, Glasgow, Lewistown, Havre and Great Falls in cooperation with State Department of Public Instruction and Montana Division, American Cancer Society.

Medical Refresher Course in V.D., Cytologic Detection of Cancer, Tuberculosis, and Heart Disease provided by SBH or in conjunction with voluntary health agencies.

Special Venereal Disease project underway.

Cooperative program functioning in public health nursing with State Hospital at Warm Springs' new field liaison program **to provide improved continuity** of care for mentally ill patients returning to communities on release from State Hospital.

INTRODUCTION

The twenty-ninth Biennial Report of the State Board of Health has been arranged in a manner that differs from previous reports which were reported by each administrative Division of the Board. The new arrangement is divided into two major sections: ADMINISTRATION AND GENERAL SERVICES and PUBLIC HEALTH PROGRAMS.

The section on ADMINISTRATION AND GENERAL SERVICES includes those activities which are not included under the public health program reports described in Part II. They are the over-all activities which are not limited to any one program but are essential to make any one of the public health programs function properly.

A detailed index is provided for the readers who are interested in following special services that weave through many parts of the report.

The section on PUBLIC HEALTH PROGRAMS are the reports of programs which control or prevent disease and which promote good community health, not merely the absence of disease.

The change in arrangement was made to eliminate duplication of reporting whenever possible. It was also made to prevent confusion for the reader which sometimes occurs when administrative organization cuts activities up into too many sections. It is also expected this new organization will make the report more readable for the people of the State.

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PART I ADMINISTRATION AND GENERAL SERVICE

Central Administration

Finances, Budget

In spite of an increase in appropriations, public health services during the biennium were hampered by increased operating costs. Salary costs, hospital per diem rates and most other costs of services and materials continue on an upward trend. Greater increased funds than have been available are necessary each year just to maintain a level of services rendered. The normal increase of program activities which is warranted by State population growth alone often cannot be carried out because of the restriction imposed by insufficient funds. Some programs which are required by State law are not possible because of inadequate funds and personnel.

The State appropriation by the 1957 legislature for public health in Montana was an increase of 17% over the appropriation made in 1955. A great portion of the increased funds was necessary for the payment of higher costs of services and materials for the two fiscal years involved.

For the first time, a State appropriation was made for water pollution activities of $10,000 per year, which was used to match in part the Federal water pollution control grants.

The Federal funds available for Fiscal 1957, the first year of the biennium, included $107,411 for the purchase and distribution of polio vaccine (this program terminated June 30, 1957) and the initial contracted amount of $35,580 from the U. S. Public Health Service to assist in payment for services to the Indian populations of Public Health District I in Big Horn and Rosebud Counties and Public Health District II in Lake and Sanders Counties. Payment of assistance funds which were in smaller amount for Indian health had in previous years been made directly to the local districts. This year's federal allotments also contained a renewed grant of $15,415 to Montana for water pollution control activities. State matching funds and program activities warranted utilization of only $10,215 of the federal allotment.

A special project to improve the Cleft Lip-Cleft Palate program was initiated July 1, 1956 under a special five year grant from the U. S. Children's Bureau of approximately $50,000 for each year.

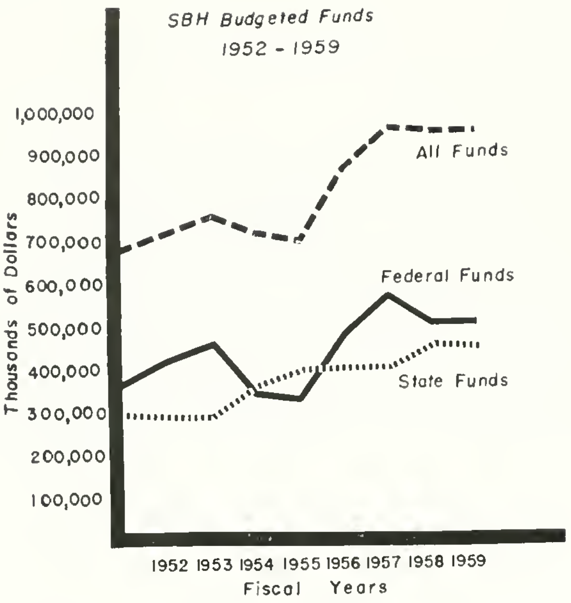
Federal funds budgeted in Fiscal 1958 included an increased general health fund allotment which contained $15,800 earmarked for services to the chronically ill and aged.

The budgets for the two years of the biennium averaged approximately $85,000 higher than the previous highest budget of $852,000 in Fiscal 1956. Federal funds accounted for 59% of the budget in Fiscal 1957 and 53% in Fiscal 1958.

MONTANA STATE BOARD OF HEALTH
Budgets and Expenditures
State and Federal Funds
Fiscal Years 1952 to 1959

Year		Total	Federal	State*
1959	Budgeted (Preliminary)	$909,484	$452,934	$456,550
1958	Budgeted	932,970	498,982	433,988
	Expended	872,225	475,203	397,022
1957	Budgeted	944,522	553,595	390,927
	Expended	854,877	523,751	331,126
1956	Budgeted	851,706	475,463	376,243
	Expended	795,106	459,595	335,511
1955	Budgeted	681,735	308,581	373,154
	Expended	660,793	295,701	365,092
1954	Budgeted	695,047	337,924	357,123
	Expended	637,320	324,800	312,520
1953	Budgeted	736,632	451,487	285,145
	Expended	669,056	386,255	282,801
1952	Budgeted	699,739	417,553	282,186
	Expended	599,927	333,803	266,124

*State appropriation with a small sum from fees and contributions.



Total expenditures of $854,900 for Fiscal 1957 and $872,200 for Fiscal 1958 averaged approximately $68,000 per year higher than the Fiscal 1956 expenditure of $795,106. (Detail of budgets and expenditures and trends since 1952 are shown in Part III on pp. 67-69 of this report.)

Federal allotments for Fiscal 1959 for Maternal and Child Health and Crippled Children's activities are approximately the same as the Fiscal 1958 allotments.

Information has not, at the end of the biennium, been received indicating allotments to Montana from U. S. Public Health Service grants for the next year; however, it is expected that they will be approximately the same as the previous year's grants.

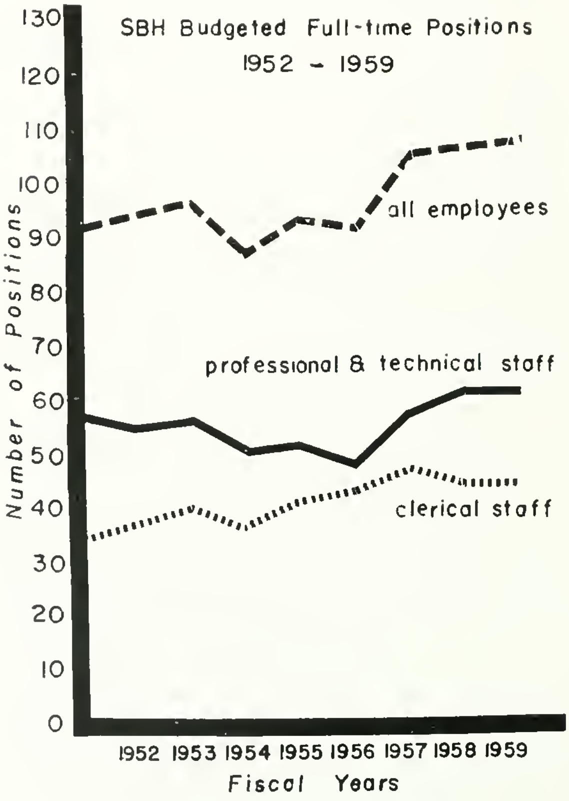
Detail of Receipts from Fees

Year	Water Fees, Private	Vital Statistics	Water Fees, Public	Septic Tank Licenses	Hospital Licenses	Food & Drug Licenses	Total
1956-57	1,883	8,368	14,218	485	485	15,675	41,114
1957-58	2,062	8,035	11,687	215	460	15,520	37,979
Total	3,945	16,403	25,905	700	945	31,195	79,093

As authorized by State statutes, the various divisions of the State Board of Health collected and deposited in the State General fund the receipts for licenses and certified copies of certificates issued. During the biennium $75,148.00 was deposited in the general fund. In addition, $3,945 was collected for water analyses performed for private individuals and deposited in the special fund used to defray a portion of the laboratory operative expenses.

Personnel

There is a continuing difficulty in recruiting personnel for professional and technical positions. Montana salary scales were revised upward during 1957 and are more closely competitive with salaries paid by other State Health Departments. State salaries, however, do not compete on a favorable basis with those salaries paid by private industries. Recruitment efforts to hire persons in engineering, health education, and medical categories have been discouraging. Recruitment is difficult at both the entrance and experience level since the salary offers of the voluntary health agencies and industries and income from private practice are much more attractive than the State compensation schedules. Many programs requiring qualified personnel have suffered because of insufficient staff for proper development.



During the last year it has been somewhat easier to recruit chemists and bacteriologists. Nursing consultant positions are filled, with one exception. This is an improvement over the last several years.

The turnover rate for professional and technical personnel has remained high because of the salary problem and because several employees have resigned to continue academic training to qualify them better for positions. The latter has been particularly true of chemists, bacteriologists and sanitarians.

Staff Turnover

	% 1954	% 1955	% 1956	% 1957	% 1958
Professional-Technical	49	15	23	15	22
Clerical	70	112	58	55	45

In general, the staff turnover rate for the professional and technical positions was the same as for the last biennium. The turnover rate for clerical personnel which was extremely high in Fiscal 1955 declined in 1956 and was materially improved during 1957 and 1958. The improvement in the clerical categories was probably occasioned by position stability provided by more adequate funds and the fact that a new compensation plan was adopted in August 1957.

The compensation plan, when adopted, appeared to be adequate, but at the close of the biennium it is not high enough to attract experienced clerical and stenographic personnel in competition with other State agencies and private employers. It appears that it must soon be revised upward to assist in retaining qualified personnel who have already been trained to job requirements, and to assist in getting the interest of well qualified applicants where replacement is necessary.

Many of the staff members are carrying multiple responsibilities because of unfilled staff positions. During the biennium there was no physician to direct the Division of Local Health Services, a portion of the time the Child Health Services Division had a part-time Director, and the Division of Environmental Sanitation had insufficient engineering staff to carry out planned programs. The Dental Health and Disease Control Divisions were without full-time directors for long periods and of necessity operated under the part-time direction of the Executive Officer. The position of Executive Officer, vacant in January 1958, has been covered on a part-time acting basis by a Division Director. The loss of trained health educators has imposed added burdens on the remaining division staff in furnishing necessary services to the program divisions and to carry out community programs.

In order to implement and carry out desired programs, budgeted positions were increased 16% in Fiscal 1957 and 1958. It has been possible to fill about 90% of the budgeted positions so that the total number of staff personnel has risen slightly during the biennium.

Development of health services at the local levels has been hampered because of the difficulty of obtaining personnel at both the State and local levels. Very little progress was made during the biennium in increasing the number of fully qualified Public Health Nurses and Sanitarians for service in the local health departments. At the end of the biennium there was a higher percentage of untrained personnel employed than was the case at the end of the previous biennium. The training program has been enhanced through the use of available Federal traineeships. As a result, less of the funds granted to the State have been used for training than would have been required otherwise.

Renewed interest in Civil Defense planning during the biennium is described later.

Office Quarters

The procurement of adequate office quarters has been a continuing problem throughout the biennium. It was planned that the Bacteriology Laboratory would be moved into the State Laboratory Building early in Fiscal 1957. However, at the end of the biennium the Bacteriology Laboratory was still housed in the old quarters in the Board of Health Building. Great difficulty has been experienced in securing satisfactory laboratory fixtures so that quarters in the State Laboratory Building can be occupied. It is expected that previous deficiencies will have been corrected and that the new quarters will be occupied during October 1958.

During Fiscal year 1958 permanent quarters were completed for the Virus Laboratory and quarters for laboratory animals for use in both the bacteriology and virus units, were provided. Further discussion of this work is described in the laboratory section of this report.

The Executive Office, Administrative Office, and the Divisions of Public Health Nursing and Health Education have occupied temporary space in the Laboratory Building throughout the biennium.

The Child Health Services Division and the Division of Dental Health have also continued occupancy of the Annex Building on the Capitol campus. It is imperative that office space be made available for non-laboratory personnel at an early date.

This can only be accomplished by: (1) remodeling and expanding the Board of Health Building, (2) by the provision of a new building to house all offices of the Board of Health not related to laboratory services, (3) by adding office space to the State Laboratory Building or (4) by rental of offices elsewhere in Helena.

Legislation

New legislation, relating to public health in Montana, passed by the 1957 legislature was limited.

An act authorizing and directing the State Board of Health to adopt definitions and standards governing the manufacturing of bakery products and define a standard loaf of bread by weight was passed.

Legislation was also adopted to permit the county boards of health to appoint a deputy county health officer when deemed necessary. This legislation also provides for Boards of County Commissioners of two or more adjacent counties to enter into a contractual agreement with two or more existing boards of health for services for any part of the county adjacent to the jurisdictional area of such board of health and to provide funds from the general fund of such county for this purpose.

◆

Civil Defense

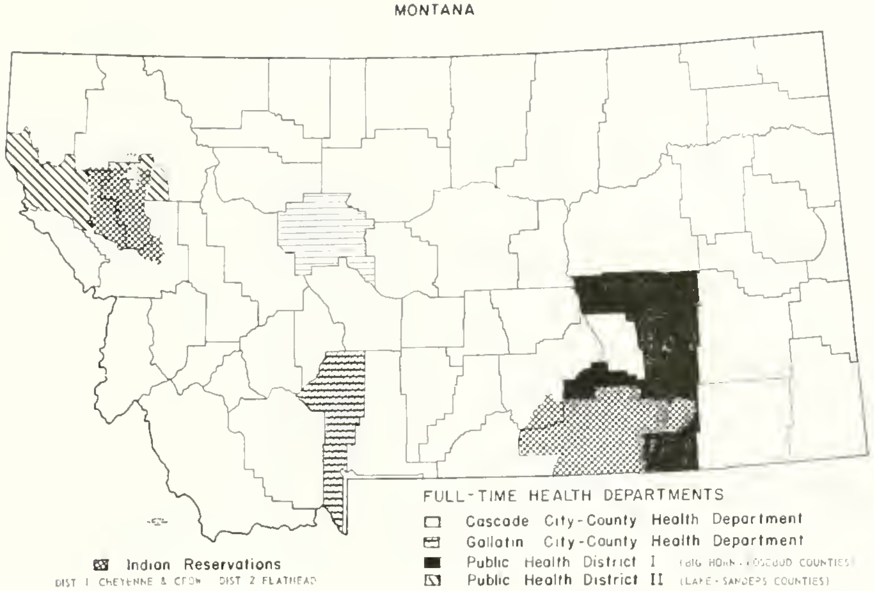
Although no funds were appropriated for Civil Defense activity, nevertheless a limited amount of staff time has been devoted to special problems in this area.

During this report period several meetings of the Civil Defense Health Service Advisory Council were held. The Council members attended these meetings at their own expense. State staff have participated in civil defense meetings of several professional organizations. Planning is underway by the State Nurses Association, with some assistance from the State Board of Health staff, to conduct a workshop for representatives from the district nursing associations early in the next biennium.

A State-wide conference for key persons in Montana Health Services in Civil Defense, was sponsored by the SBH in July 1956. About 60 medical, dental, veterinary, nursing, other related professional organization representatives, as well as civil defense and public health representatives attended this three day training conference.

The State staff was assisted by several out-of-state resource persons from: Massachusetts General Hospital, Boston; U. S. Public Health Service, Communicable Disease Center, Atlanta and its Sanitary Engineering Center in Cincinnati; and the U. S. Army Medical Corps Atomic Casualty Study Division of the Army Institute of Research at Walter Reed Hospital.

During the summer of 1956 a 200 bed hospital was obtained and stored at the State Hospital at Galen. It was used in public demonstrations at Helena and Anaconda. Further use was limited because of lack of finances even to the extent of being unable to pay travel of volunteers and of obtaining property control responsibility when it was out of storage.


MONTANA
FULL-TIME HEALTH DEPARTMENTS
☐ Cascade City-County Health Department
▤ Gallatin City-County Health Department
■ Public Health District I (BIG HORN - ROSEBUD COUNTIES)
▧ Public Health District II (LAKE - SANDERS COUNTIES)
▩ Indian Reservations
DIST I CHEYENNE & CROW DIST 2 FLATHEAD

There has been no change in the number of counties with full-time health departments. Fifty counties still lack these services.

Local Health Services

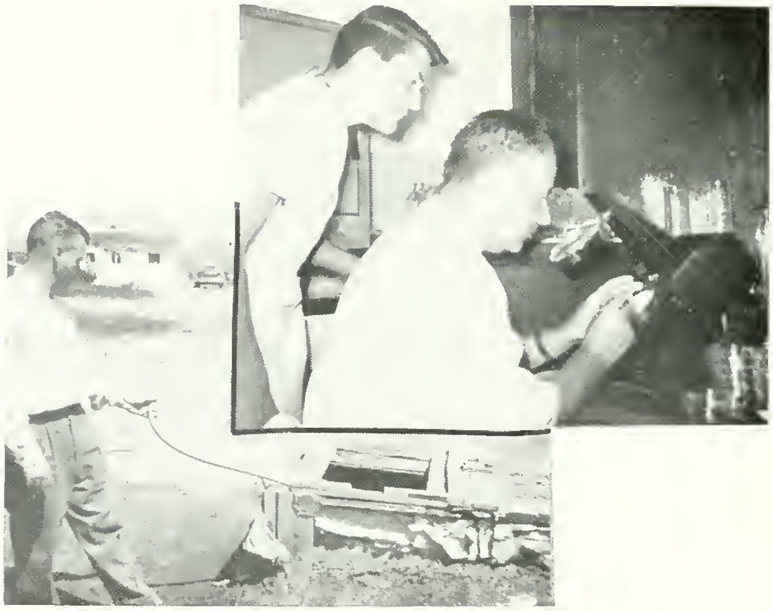
Areas with Full-time Health Departments

PUBLIC HEALTH DISTRICTS I & II

With the initiation of contracts between the U. S. Public Health Service, Indian Health Division and the State Board of Health during the last biennium, P.H. Districts I and II have been assuming added responsibilities.

For the first time the staff in both districts will have all of its budgeted positions filled by September, 1958. These districts have been improving their services and have been giving increased attention to the prevention of infant deaths, the control of tuberculosis, and improving sanitation and public health education activities among the Indian population where these needs are paramount.

Some of the public health nursing services to the Indian population of Public Health District I are illustrated in the exhibit which the SBH health educators are using in a discussion of exhibit construction.



Cascade County sanitarian makes bacteria count on milk sample as biology student watches (above). Sanitarian checks public water supply in area outside Great Falls City limits (below).

The Cascade City-County Health Department made considerable improvement during the biennium in its tuberculosis control program. The program in this department encompasses the utilization of currently accepted "best methods" of control. The department stepped-up its services to the families living in substandard conditions just outside the city limits.

In cooperation with the Montana Division of the American Cancer Society a student training program was initiated whereby students worked in the health department during the summer of 1958, with the Cancer Society paying the salaries. This provided such a good plan in relieving staff of non-professional duties it is anticipated that the part-time service of these students will be paid for by the Health Department after school starts in the Fall. It is also expected this will make a contribution to interesting these students in health careers.

A sanitarian was added to this staff at the close of the biennium. The State Board of Health, in adding a nursing position to its Rheumatic Fever and Heart Diagnostic Center staff which is housed in the City-County Health Department office, in effect improved the health department nursing service in the county.

The Gallatin City-County Health Department since 1954 has served as a field center in public health nursing experience for Montana State College nursing students. This is a cooperative program between the College, the State Board of Health and the local health departments of Gallatin and Cascade counties. Since the plan was initiated 38 student nurses have received their basic public health nursing experience in this department. The Cascade County Health Department will begin to accept students in September 1958.

A public health nurse position was added to this staff by the State Board of Health to assist in carrying this student program.

In 1957 the department reviewed its immunization status among children entering school in the fall and found a good record. 91% had been immunized against smallpox, diphtheria, pertusis (whooping cough), tetanus. 80% of these children had been protected against polio.

Good State-Local Relationships are important to good public health practice. One of the methods to bring about a more effective team approach between the State and local staffs in their cooperative work of protecting Montana's health is through regular quarterly meetings.

College and Health Department Staff in Bozeman plan for student nurse field experience.

These meetings are attended by the full-time local health officers, the executive officer of the State Board of Health and other State staff as requested.

A form has been developed for the use of local health department staff reporting. This reporting makes it possible to plan more effectively, to discuss mutual problems and to evaluate progress that is being made.

Other Areas

Little progress has been reflected among the counties which lacked public health staff at the beginning of the biennium. Flathead County established two public health nursing positions during the biennium. This is the first time generalized public health nurses have been employed in this county.

Ravalli County also increased nursing positions from one public health nurse to two.

No counties have employed sanitarians who did not have them at the close of the last biennium.

The status of generalized public health nursing services is shown in the map on p. 26 of this report.

38 counties lack the services of a sanitarian.

Counties with little or no public health staff have only the State staff to call upon in emergency for help with public health problems. The State staff is inadequate to provide such service to any satisfactory degree. Even if the State had staff it has been demonstrated for many years that good public health practice is carried out only when there is an adequately staffed local health department.

Local Health Councils

Local Health Councils or Committees formed by interested citizens that have been active during the biennium and with whom State staff have worked are in Cascade, Phillips, Glacier, Richland, Hill, Lewis & Clark, Flathead and Custer Counties.

Many local clubs and organizations have been given assistance in program planning for health meetings and State staff frequently meet with or speak to these groups.

Full-time Health officers, SBH Executive Officer and State Staff chiefly concerned with local health service reporting, discuss development of report form.

State Board of Health Laboratories

Laboratory services are basic to much of the work of the State Board of Health, to many private physicians and to some other groups.

Bacteriological Laboratory

Future plans of the staff of the bacteriological laboratory include:

(1) Alleviation of the crowded conditions under which the staff works when the move into new quarters in the State Laboratory Building is made early in the next biennium. Planning has continued during the biennium for occupying and equipping these new quarters. It is expected that the move into larger quarters should result in a better quality of performance and increased types of service.

(2) Establishment of an active evaluation program for the forty laboratories in the State which are registered for public health laboratory procedures. These approved laboratories are responsible for the completion of over one-half of the total number of pre-marital blood tests run annually.

(3) It is planned to initiate the Reiter Protein Complement Fixation Test for Syphilis as a routine testing procedure for a follow-up of certain significant positive reactions obtained with the Venereal Disease Research Laboratory slide test. The contemplated adoption of a special culture media will also permit the submission of gonorrhea specimens for culture.

(4) Perhaps attention should be given to the fulfillment of requests for Antistreptolysin 0 determinations, which are not run by the State Laboratory at present. Through funds provided by the Montana Heart Association, the Deaconess and Columbus Hospitals in Great Falls provide this service for the State Board of Health Rheumatic Fever and Heart Diagnostic Center. This is done for the Center's diagnostic work in Rheumatic Heart Disease.

Bacteriologist examines Tuberculosis Cultures.

During the biennium 154,420 containers were mailed in which specimens are sent to the State Laboratory.

(5) Antibiotic sensitivity tests are run on rather a limited basis. Drug sensitivity tests are not run at present, even for M. tuberculosis which perhaps should be added to the service sometime in the near future.

There has been little request for staphylococcus sensitivity tests, unlike many of the other State laboratories.

The volume of laboratory work shows a decrease for the biennium. A total of 147,462 examinations were completed on 114,825 specimens during this report period. This represents a decrease of 6,669 examinations or 4.5%. There was a decrease of 3,162 specimens or 2.6%.

The decreases in tests and specimens have been largely in tests for syphilis and gonorrhea. This decrease is probably due to the fact that the local laboratories are doing more of these tests now than they did formerly.

The comparative increases and decreases in specimens are shown in the table below.

BACTERIOLOGICAL LABORATORY COMPARATIVE STATISTICS
1954-56 — 1956-58

Examinations	Specimens 1954-56	Specimens 1956-58	Gain or Loss
Syphilis	87,019	78,539	—8480
Gonorrhea	957	801	— 156
Diphtheria	627	1,500	+ 873
Enteric	3,751	4,066	+ 315
Tuberculosis	4,561	4,563	+ 2
Rh Factor	2,817	3,763	+ 946
Lactobacilli	227	1,243	+1016
Dairy Products	1,521	1,397	— 124
Water Analysis	15,344	17,160	+1816
Miscellaneous	1,165	1,793	+ 628
Total Specimens	117,989	114,825	—3162
Total Examinations	154,131	147,462	—6669

It is of interest to note that in the calendar years 1956 and 1957, a total of 126 isolations were made for the enteric diseases. These isolations were made of various species of Salmonella and Shigella, representing 101 different patients.

Although the total number of specimens and examinations have decreased there have been some increases. Diphtheria specimens have almost doubled over the last biennium. Other increases have been in lactobacilli counts, Rh groupings, and bacterial tests on water.

The number of specimens for tuberculosis studies for animal pathogenicity have increased.

A report on the laboratory work in tuberculosis is shown below.

In the table below the number of specimens, examinations and positive reactors with the % of reactors are shown for Syphilis laboratory examinations during the last ten years. Although the number of specimens and examinations, and positive reactors have decreased, the % of reactors has risen from 3.8% to 6.3%. This is due largely to the fact that positive reactors obtained by the hospital and clinic laboratories are usually referred to the State laboratory for recheck and confirmation.

LABORATORY EXAMINATIONS FOR SYPHILIS — 10 YEAR PERIOD
FISCAL YEARS 1948-1958

Year	Specimens	Examinations	Reactors Positive	Reactors %
1948	58,467	116,807	Not Available	
1949	47,734	115,087	4,382	3.8%
1950	56,547	113,220	4,083	3.6%
1951	54,105	106,464	2,931	2.7%
1952	47,892	94,434	2,458	2.6%
1953	47,323	93,929	2,623	2.8%
1954	44,927	90,766	2,158	2.3%
1955	44,631	53,292	2,786	5.2%
1956	42,388	46,695	2,686	5.7%
1957	41,383	45,950	2,758	5.9%
1958	37,156	41,627	2,650	6.3%

Although the number of specimens and examinations has decreased, the laboratory work load has not decreased.

The Work load has increased because of the introduction of new testing procedures, many of them are complex. Recent advances in immunization, chemotherapy and antibiotic treatment have greatly increased the volume of services requested.

The current use of antibiotics and chemotherapy in the treatment of many bacterial diseases have created special problems in laboratory studies. This is particularly true in

BACTERIOLOGICAL LABORATORY EXAMINATIONS FOR MYCOBACTERIUM TUBERCULOSIS
1953-1958

Examination	1953-54		1954-55		1955-56		1956-57		1957-58		Totals		
	Total No.	Pos.	Total No.	Pos.	Total No.	Pos.	Total No.	Pos.	Total No.	Pos.	No.	Pos.	% Pos.
Microscopic	1957	114	2005	95	1812	90	1713	58	1811	64	9298	421	4.5
Culture	2213	164	2361	162	2179	150	2164	77	2369	87	11286	640	5.6
Animal Inoc.	372	36	446	49	454	34	569	34	670	35	2511	188	7.5
TOTAL	4542	314	4812	306	4445	274	4446	169	4850	186	23095	1249	5.4

tuberculosis since some types of chemotherapy have rendered the acid-fast bacilli so attenuated that they may fail to produce infection (beyond the point of inoculation) in the guinea pig. The guinea pig was formerly considered a standard test animal for tuberculosis. As soon as more working space becomes available bio-chemical tests, which have been devised and other in vitro techniques now being developed, will be utilized to assist in the identification of the tubercle bacilli.

Special training is needed for the staff in mycological and general bacterial techniques. The emphasis on Water Pollution work in the State points up the need to keep abreast of the newer bacterial analysis of waters, including the membrane filter equipment.

The **role of the agency in providing in-service training looms larger** since laboratory workers in colleges and universities are being taught only the basic principles in the sciences which form the background for laboratory work and are not taught the specific tests. This with the factor already mentioned, of the many changes and rapid advances in diagnostic methods which are occurring, creates the need for a never-ending training program.

With the move into new facilities and the addition of some new staff, it is anticipated that requests can be filled for the **training of medical technologists** and other laboratory personnel. This **training request is for the newer techniques for syphilis serologic tests** which have come from the Montana State College and clinical pathologists in the State.

Virologist uses specially equipped microscope which makes possible viewing of tissue cultures in test tube.

Virus Laboratory

The establishment of the virus laboratory, started during the last biennium, has been completed. This was done and the laboratory is continuing to function with the various Federal funds that have been made available to the State Board of Health. These funds were primarily obtained because of the Poliomyelitis Vaccine Act and the Asian influenza outbreak.

This money permitted the purchase of equipment, special training for personnel and the employment of staff.

The purpose of the virus laboratory is to identify viruses present in the community and to aid in the diagnosis of virus diseases.

The increasing need for virus laboratory services has become more apparent in recent years with the discovery of a multitude of new viruses and the development of laboratory procedures to identify them.

In the past 10 years more than 70 new viruses have been identified. Until the establishment of the State Virus Laboratory, virus diagnostic services were offered as an adjunct to the research work performed by the U.S Public Health Service Rocky Mountain Research Laboratory at Hamilton.

Recent developments in the field of virology, such as the discovery that many hitherto unknown viruses could be grown in the tissue culture, have made the diagnosis of virus diseases possible.

Virus laboratory services were first made possible through an arrangement with the U.S. Public Health Service Laboratory at Hamilton. During the period when temporary quarters were being arranged for one of the staff members worked at Hamilton from July 1, until September 1, 1957.

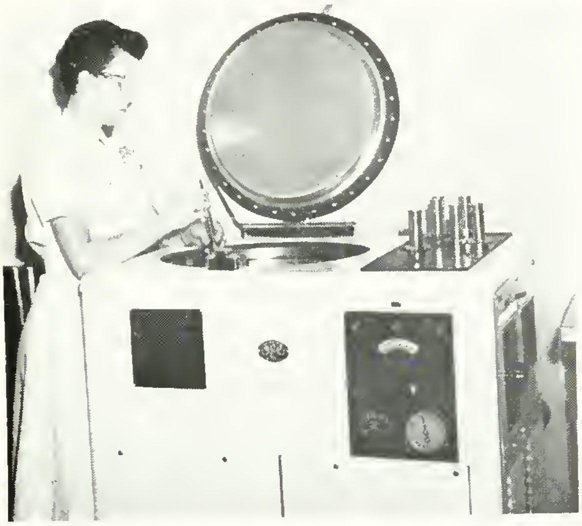
By this time staff had been employed, and the training, necessary for some of them, had been completed. The virus laboratory began functioning in September 1957 in temporary quarters in the State Laboratory Building.

At the same time plans were carried out to remodel some of the space in this building for use as a virus laboratory, which also included completing the unfinished basement area. This work was necessary in order to provide isolation facilities. Isolation facilities are necessary for the protection of the virus laboratory personnel and to prevent the spread of viruses to other parts of the building. These quarters will be occupied in August of the next biennium.

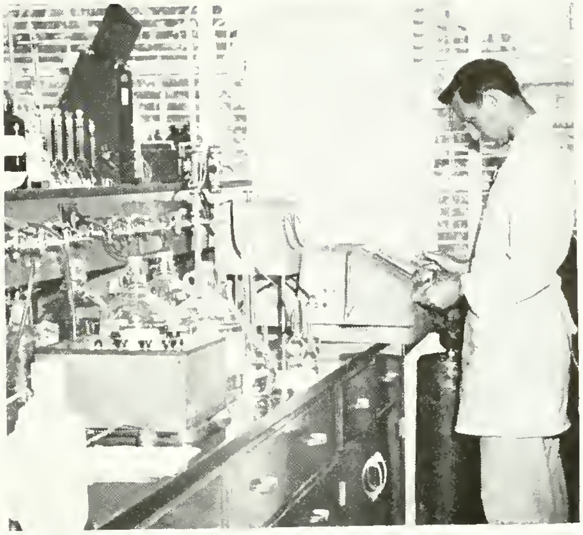
During the last nine months of the biennium, the laboratory received 600 specimens, upon which 1,021 tests were performed. This included work on influenza, poliomyelitis, western equine encephalomyelitis, St. Louis encephalomyelitis, mumps, psittacosis, adenoviruses, herpes, Q fever, and typhus. Ten isolations of influenza virus and nine of polio virus were made.

Although procedures have been simplified, the isolation and identification of viruses still involves tedious and exacting work. Viruses can only be grown in living tissues and it is necessary to maintain these tissues continuously so that they may be ready at all times for virus inoculation. The laboratory staff must spend a major portion of its time preparing culture media and maintaining these tissue cultures. Many procedures used in the laboratory are not standardized, therefore, a portion of the time is spent in developing techniques which will facilitate the more rapid recognition of virus disease.

In addition, the staff offers epidemological aid to communities where unusual outbreaks of virus diseases occur. In June 1950 an outbreak of poliomyelitis occurred in Browning. Within a short time personnel had collected specimens, identified the causative agent and demonstrated the extent of spread of the virus.



The refrigerated Centrifuge pictured above is used to centrifugate virus cultures in the cold to prevent their deterioration.



Determination of Sodium in Water, with a flame spectrophotometer by a State Board of Health Chemist. The purpose of the determination is to establish the amount of sodium in the water, critical for heart patients.

CHEMISTRY LABORATORY

The new basic equipment needed for the chemistry laboratory, after its move into the State Laboratory Building during the last biennium, has been purchased and installed. The staff, operating with some part-time employees during much of the biennium, has now increased from two to three chemists.

The toxicological services performed by this laboratory range from the determination on air samples submitted by industry to the analysis of blood specimens submitted by private physicians

In addition to services in the State Board of Health sanitation and industrial hygiene programs, toxicological services are available to private physicians and to state agencies, principally the Highway Patrol, the Department of Agriculture and the Purchasing Department.

During this biennium, the Highway Patrol submitted a total of 1,410 blood and urine specimens for analysis of alcoholic content, the purpose being to establish evidence relative to the innocence or guilt of individuals apprehended to the charge of driving a motor vehicle while under the influence of alcohol.

In connection with this service, the chemists are often called upon to give court testimony in those instances when the arrest is disputed.

The following table shows the amount and types of analyses carried out by the Chemical Laboratory.

CHARACTER, NUMBER AND DETERMINATION OF SAMPLES ANALYZED BY THE CHEMISTRY LABORATORY

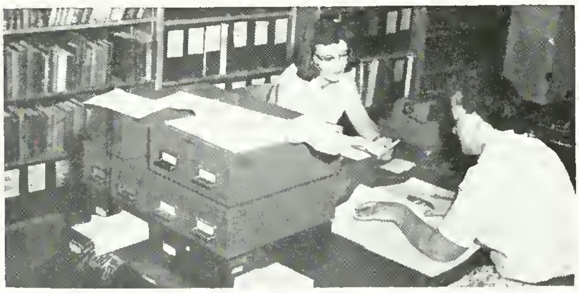
July 1, 1956-June 30, 1958

Character of Samples	Number of Samples	Number of Determinations
Total Samples and Determinations	3,469	7,089
Air and Non-Atmospheric Industrial	642	800
Body Fluids from Highway Patrol	1,410	1,410
Water, Sewage and Trade Wastes	986	3,371
Food, Drug, Miscellaneous and Experimental	431	1,508

For the previous biennium, a total of 1,386 samples were received and 3,374 determinations were made. The present biennium more than doubles these figures.

Steam Distillation of Atmospheric Samples collected by Industrial Hygiene Engineer for Fluorine determination in chemistry laboratory.

Public Health Education



Library procedures have been reorganized and improved during the biennium.

Library Activities

The State Board of Health added 220 books during the biennium to its library. This brings the total to 3,000. In addition there are some old books kept in a historical collection. The Board subscribes to 86 periodicals which are routed to each interested staff member. There are approximately 13,500 individual pamphlets on file.

Correspondence

Hundreds of letters giving informational material on public health and various health subjects are mailed out each year.

Preparation and Distribution of Materials

The 28th biennial report was prepared and 2,086 copies were distributed and the preparation of the 29th report was started.

Treasure State Health, the official publication of the State Board of Health, is prepared and distributed monthly. During the biennium 67,250 copies have been distributed.

Public Health Workers Help Keep People Well, an outline for elementary school use was prepared in preliminary form.

219 informational articles have been provided for the press.

An article with pictures on "One Phase of Public Health Nursing" developed from an exhibit of public health nursing activities to Indian families was prepared for the editor of "Public Health Reports" at his request. This is a U.S. Public Health Service Publication and has national distribution.

Two articles for North Carolina School of Public Health's publication "Health Educators at Work" were written. One was on the Health Educators Activities in the Chest X-ray Survey and the other was on the North Central Montana Committee's activities and the Conference on Alcohol in Great Falls.

A revision of the pamphlet, "State Board of Health Services", is underway.

In-Service Training

Staff Seminars are held monthly to assist in keeping the staff appraised of new programs, plans and current scientific information. Meetings of all the staff are held as needed. Directors meet monthly with the executive officer to discuss administrative matters. Regular division meetings are held regularly by Child Health, Public Health Nursing, and Health Education Divisions; by the other Divisions, on call. Inter-divisional staff meetings and committee meetings are held as needed.

Safety Education

There is a staff committee on Safety Education. Its purpose is to promote attention to safety as a part of other public health programs. The State Board of Health for the last two years has served as the collection agency for the Home Safety Inventory of the National Safety Council.

Health Careers

Some work has been done with the high school instructors of the State in promoting more attention to health careers. An exhibit on health careers, with special emphasis on public health careers was prepared and exhibited.

Orientation to the State Board of Health And to Public Health in Montana

An orientation program is provided through periodically conducted sessions. These orientation programs are held primarily for new State and local public health personnel. In addition other groups have been given an opportunity to participate in this program at their request. The groups who participated during the last biennium are: staff from the Mental Health Field Liaison Program, Montana State Nursing School Faculty, Students from the course on Exceptional Children from the College of Great Falls, (during June of 1957 and 1958) and to Helena teachers as a part of the Business-Education Day.

Special orientation in chest x-ray survey procedure was provided for the director of health education in the Wyoming State Health Department and the executive secretary of the Wyoming Tuberculosis Association at their request.

8,708 pamphlets (not reported elsewhere in this report) have been distributed. Bibliographies on the various health subjects are prepared on request and materials for talks and papers are made available.

Narcotic and Alcohol Education

Public interest in the problem of alcoholism in Montana has continued to increase. This interest is evident in some community groups and among certain professional groups.

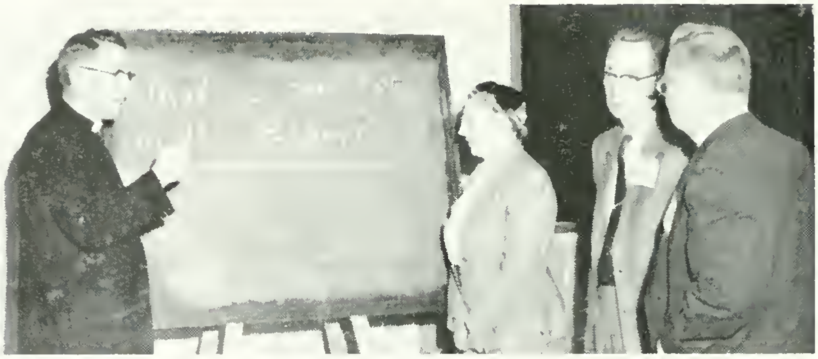
A recent report indicates that there are 15,000 alcoholics in Montana and that Montana ranks 22nd in its alcoholism problem among the States.

Major accomplishments of the educational program have been:

1. The establishment of two permanent local committees in Great Falls and Billings. These committees were formed following community-wide conferences.
2. The apparent interest of business and industry, in the problem of alcoholism, for a conference to be held early in the next biennium.

128 films are available for loan and during the biennium were seen by about 4,625 persons. The film catalog was revised and 204 copies were distributed.

Clergymen, Social, Public Health and Mental Health Counselors — These people remind us to face up to a very real problem, a problem that is definitely destructive to our society.



3. The interest of two areas in the State to hold community-wide conferences. These areas are in Lake County and in the Lewistown area.
4. The formation of a State Inter-Agency Committee.

The Northcentral Committee in Great Falls was formed as a permanent local committee following a community-wide conference in October 1957. This conference was sponsored by the State Board of Health and the College of Education in Great Falls, with a local community-wide committee planning and managing the conference with assistance from the two sponsoring groups.

The Midland Empire Conference on Alcohol and Alcoholism was sponsored by the Montana State Board of Health and the Rocky Mountain College in cooperation with an Interfaith Committee. This conference was primarily for the clergy and representatives of church organizations throughout the State, and was held by request.

This conference was attended by about 200 persons. Following it the Yellowstone Council on Alcoholism has been formed. This Council hopes to work out a plan to meet the problem in this part of the State.

These two conferences were held after recommendation by a State committee which met to evaluate the previously held "Schools of Alcohol and Alcoholism" which had been held at the Eastern Montana College of Education and Montana State University.

Staff time has continued to be given to assist the Narcotic and Alcoholism Advisory Committee to the State Board of Health. Through the work of the subcommittees of this Advisory Committee new educational programs are developing for Business and Industry and for Professional Education.

The staff has continued to give consultation to community groups, including school faculties and teacher training units of the university and colleges. New films, slides, books and pamphlet materials have been added to the existing resource materials for loan and/or distribution.

The State Inter-Agency committee has been formed on the recommendation of the Advisory Committee. Since there are no funds for additional staff to develop a more extensive program, including treatment, case-finding and rehabilitation, the State Inter-Agency committee was asked to see what agencies could do with the staff now available in improving services through improved cooperative effort. Great Falls was selected as a "pilot" area in which to begin.

The **Narcotic and Alcoholism Advisory Committee** to the State Board of Health has been and is continuing to be active. Quarterly meetings are held and the membership now includes 33 groups, most of whom have a representative and an alternate. Winfield S. Wilder, M.D., psychiatric representative from the Montana Medical Association, is the chairman.

The Committee has four active subcommittees: Professional Education, Study of Present Laws relating to Alcohol and Alcoholism, Business and Industry, and Alcohol and the Teen-Ager.

The subcommittee on Alcohol and the Teen-Ager prepared and distributed the opinions on a questionnaire relating to the seriousness of the problem of alcohol among teen-agers. At present the committee is assisting in the preparation of materials for school use in the fac-

Members of subcommittee on Business and Industry of Narcotic and Alcoholism Advisory Committee meet to plan for State-wide Conference

tual teaching on the subject of alcohol and alcoholism. G. V. Erickson, Helena, representing the elementary principals, is the chairman of the subcommittee.

The Business and Industry subcommittee, under the chairmanship of Herbert Wendel, Butte, who represents the mining industry's point of view, is assuming major responsibility in sponsoring a conference. This conference will be held in the fall of 1958. Its purpose is to review the extent of the problem of alcoholism in Montana business and industry, and if the participants define alcoholism as a problem, an attempt will be made to make suggestions to meet the problem.

The newly formed subcommittee on professional education was appointed to develop a plan for professional education on the problem of alcoholism and present it to the committee of the whole. William Walter, Ph.D., professor at Montana State College, Bozeman, is the chairman of this subcommittee. He represents the field of biological sciences from the University of Montana.

The subcommittee studying present laws has been asked to report to the Committee on whether or not Montana's present laws relating to alcohol and alcoholism are adequate.

Field Training and Observation

Field training and/or observation in health education for students from the University Schools of Public Health has been provided as shown in table below.

This brings the total of health education students to 13 who have been given an opportunity for this training in Montana since 1952.

University Schools of Public Health	No. Weeks	Trainee	Address
	1957		
California — at Berkeley	3	Lennie Martin	Hobart, Tasmania
	1958		
California — at Berkeley	12	Talib Jawad	Baghdad, Iraq
Michigan	10	Darlene Bristow	Mission, South Dakota
Minnesota	1	Virbhadra H. Thakor, M.D.	Bombay, India
	1	Sardool Baharara, M.D.	Lucknow, India
	1	A. Amarsinghe	Galle, Ceylon
Yale	1	Achmed Hajat	Djakarta, Indonesia

Field training students from foreign countries, during the summer of 1958, accompany health educator from State Board of Health staff on visit to the Cascade County Health Department.

During November 1956, observation in Child Health activities was provided for Johann Piter Stocker, M.D., Surinam, Dutch New Guinea. This training was requested by the U.S. Children's Bureau.

* * *

Public Health Nursing

The greatest impact on public health nursing in Montana which has occurred during the biennium, is that of the recently developed program to provide **continuity of service to the mentally ill patients** returning home from the State Hospital.

Field Liaison Supervisor of Montana State Hospital program meets with State staff to review progress made in the program to-date.

This program of the State Hospital at Warm Springs and participated in by several State agencies, has been one of great importance in public health nursing. Although other services are being provided, a large part of the services that the patient needs upon returning to the community will be the responsibility of the local public health nursing staffs in the health departments or the local public health nurses working where health department facilities are not available.

The State staff has spent a great deal of time in planning and exploring with the State Hospital staff and others for this special project. They have also planned and held in-service training sessions for the local nurses in mental health and care of the mentally ill. The second series is underway.

Although the public health nurses in the State have always worked with the mentally ill as a part of the generalized family services which they provide, it is expected that this new program will make it possible to provide much better services to these patients returning to the communities of the State.

Another new program, although started during the last biennium, which is now being extended, is **student nurse field experience in public health nursing.** This is a part of the basic training provided in the Montana State College School of Nursing. As a part of her work, a member of the State staff has been assigned to the special function of working with the College. This was started in the fall of 1957.

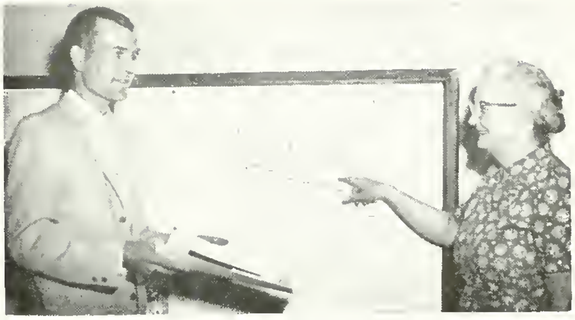
The Gallatin City-County Health Department has provided for this field experience since it was initiated and has provided experience for 38 students. In the fall of 1958, the Cascade City-County Health Department will also provide experience.

It is too early to know to what extent this will relieve the shortage of public health nurses in the State since most of these young women marry and do not work while their children are small. However, in the future there should be many more nurses living in the State who will be prepared to function in these staff positions.

"Family Health Service" has increased in importance, although it has always been one of the major public health nursing activities. It is one of the services that calls for an increased amount of promoting, planning and supervision from the State staff.

With the changing pattern of health care and the advent of specialization, the "family health services" offered by local health departments and county boards of health fills a community need for many families. This help is needed most often in time of stress in the family. It is also needed for those families who are unable to carry total responsibility for the personal health of the family and for those unable to utilize community resources without additional help.

When a request for public health nursing service is made, the nurse visits the home, helps define the problem, gives support during the planning for care, and teaches the use of resources.



Nursing consultants are assigned to special programs. Disease Control Director and Nursing Consultant above discuss tuberculosis control problems.

The **collecting and analyzing of data available** through local public health nursing service is a function of the State staff. This data with other available data is used to indicate trends in the status of community health and the effectiveness of health programs.

In order to improve the supervision of the nurses employed in local positions who do not have academic education in public health nursing, a **week's orientation** is provided each year. Fourteen nurses participated in this program during the biennium which is the largest number who have attended. Eight participated in the previous biennium.

Area conferences have continued as have individual supervisory conferences. The effectiveness of this program has been shown through the results of the examinations used for employment and promotion. The level of performance shown through the use of these examinations, indicates that the nurses who have taken advantage of the in-service program continue to rise beyond the "above national average" depending on the length of time in employment.

The public health nursing State staff plan for meeting the needs of the Montana public health nursing program.

Health Education methods are discussed with public health nurses during the orientation program held annually.

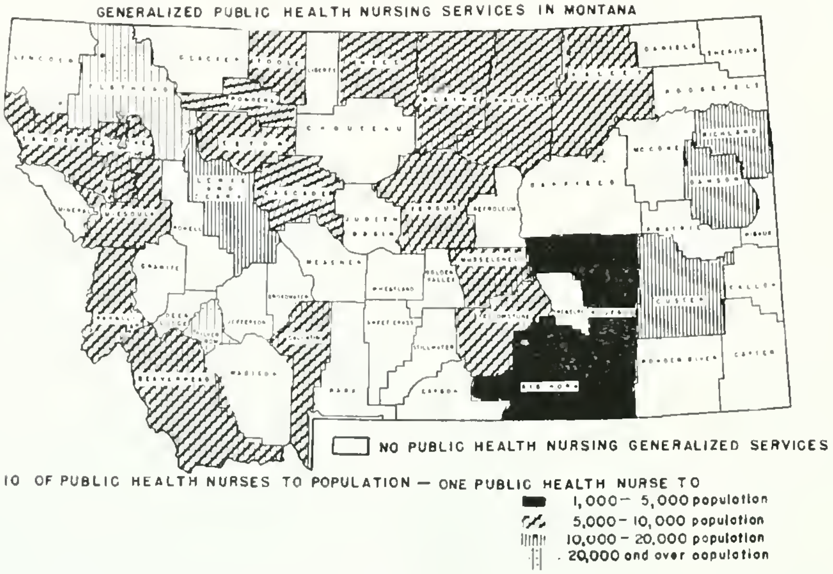
The **status of public health nursing services** in the State has recently been reviewed. Numbers alone give a false sense of achievement. However, during this report period there have been approximately 74 public health nurses employed at all times. Four of these are in industry and serve within the plant and four to five are employed by the U.S. Public Health Service, Division of Indian Health who serve the Indians living on reservations. Part-time service is provided in five counties.

The map below shows that no area of the State has a ratio of nurses to population that is near what is required for generalized services—one public health nurse to 3,000 population. Public Health District I (Big Horn and Rosebud Counties) comes the closest to the minimum number but the extent of the health problems among the Indians complicates the nursing problems.

The State staff functioned with the same number with the exception of the public health nurse that was added to the staff of the Rheumatic Fever and Heart Diagnostic Center in Great Falls in August 1957. Vacancies remained on both State and local levels. One State position is to be filled early in the next biennium but 10 budgeted positions remain vacant in local areas.

There were 22 nurses recruited for local positions. Fourteen local nurses resigned or retired during the biennium.

GENERALIZED PUBLIC HEALTH NURSING SERVICES IN MONTANA



Records and Statistics

The publication of the State Board of Health statistical report is continuing on an annual calendar year basis. Copies of these reports are available on request usually in September of each year.

On July 27, 1957 the State Board of Health changed the Bureau of Vital Statistics to the Division of Records and Statistics. Since that time several major changes have been made.

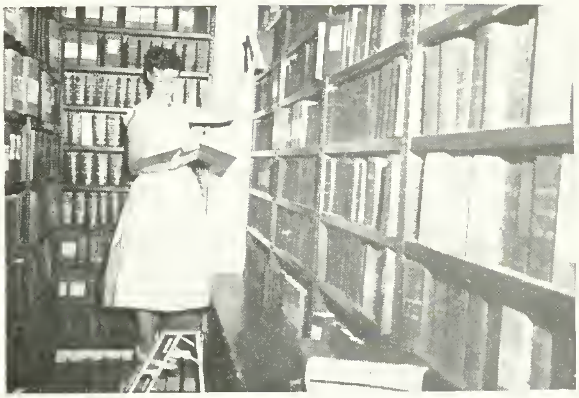
(1) Certified copies of vital records are made photographically. This procedure has improved accuracy and saved clerical time.

Microfilming Vital Records.

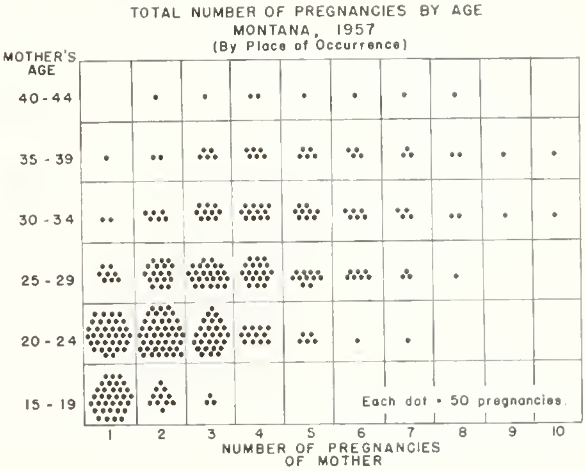
(2) Microfilming procedures have been instituted. This procedure has reduced the time in making transcripts of birth, death and fetal death certificates for transmission to the National Office of Vital Statistics. It has conserved storage space in the vault by filming the marriage and divorce records. It is also being used as a permanent means of recording State Board of Health authority for amending vital records on file, which includes: (a) affidavits of correction, (b) query forms to physicians, local registrars, undertakers, and coroners; and (c) letters from physicians and undertakers.

(3) Birth and death indexes have been revamped through the use of IBM equipment. The old index volumes have had so many additional entries made in them that they can no longer be used efficiently.

(4) The statistical work done for other public health programs, and used elsewhere in this report has markedly increased. These statistical activities require the major part of the time of the public health statistician. The program directors utilize this statistical analysis for the planning and evaluation of the Board's programs.



Searching for Records in State Board of Health Vault.



The chart above shows that more pregnancies occur in young mothers than may commonly be assumed. The 33 dots on this chart representing the first pregnancies of mothers under 20 years of age stand for 1,638 live births. 545 mothers had been pregnant twice before reaching their 20th birthday and 141 three times.

It is interesting to note that one mother had been pregnant five times and another six times in this age group. The chart shows that the bulk of pregnancies occurs in mothers aged 20-24. This is fortunate since this age group generally represents the best maternal risk. The information was assembled for the divisions of Child Health and Public Health Nursing for the staff working in Maternal and Child Health.

This is an illustration of the type of information and analysis provided by the Division of Records and Statistics to other divisions in the State Board of Health.

(5) A manual of procedures for local registrars is in preparation.

RECORDS FILED

During the last two calendar years the number of records filed for events occurring in Montana are listed below. The events occurring to Montana residents are reported elsewhere.

	1956	1957
Live Births	17,485	17,982
Deaths	6,460	6,136
Marriages	6,770	6,495
Divorces and Annulments	1,985	2,004

The number of live births have continued to increase steadily over the last several years. In 1947 there were 14,770. In 1952 there were 16,215 and 1957 marked the greatest number ever recorded. Deaths, divorces and annulments have remained fairly constant. Marriages continue to fluctuate dropping slightly in 1957 from the number in 1956. The number of marriages reached an all-time high in 1946 with 12,974 records filed.

MONTANA DEATHS

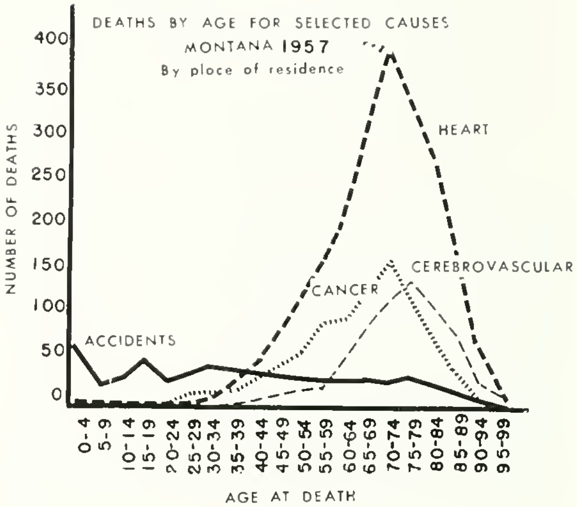
The death rate for Montana for both 1956 and 1957 was 9.6 per 100,000 population.

THE FOURTEEN LEADING CAUSES OF DEATH FOR 1957

	No. Deaths
Heart Disease	2,290
Vascular Lesions Affecting Central Nervous System	873
Accidents	541
Influenza and Pneumonia	274
Arteriosclerosis	167
Diabetes Mellitus	118
Suicide	105
Congenital Malformations	90
Atelectasis	79
Immaturity	76
Nephritis and Nephrosis	71
Cirrhosis of Liver	70
Tuberculosis	68

A special study was made of the four leading causes of death in Montana for 1957. The findings show that although accidents occupy fourth place in the terms of the number of deaths, they became first place in number of working years lost.

Cause	Total	Male	Female
Heart	2,290	1,495	795
Cancer	873	516	357
Cerebrovascular	679	363	316
Accidents	541	407	134
All other causes	2,103	1,331	772
TOTAL, All Deaths	6,486	4,112	2,374


DEATHS BY AGE FOR SELECTED CAUSES
MONTANA 1957
By place of residence

Based on this information alone, it is apparent that accidents caused over 8% of the total Montana deaths in 1957. This is serious in itself, but does not describe the full impact of accidents on Montana's people and economy.

Upon examining the age distribution of persons dying from these four causes as shown on the graph above, it is shown that those dying from accidents have a much "younger" age distribution than those dying from heart, cancer or cerebrovascular disease.

This "younger" age distribution immediately suggests that the social implications of accidental deaths are different from the other three since it is generally accepted that the 80 year old man entails a smaller loss to society than does the death of a 40 year old man.

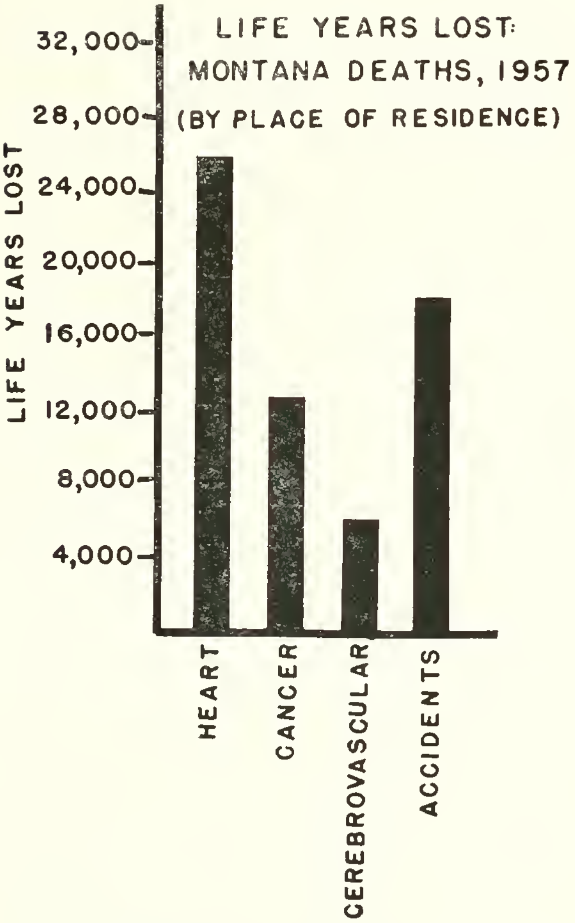
There are a number of measures of mortality which take into consideration the effect of age at death as a measure of loss to society.

Two of these measures are: life years lost and working years lost.

The information below shows the number of Life Years Lost.

LIFE YEARS LOST IN MONTANA IN 1957

Cause	Total	Male	Female
Heart	26,157	17,244	8,913
Cancer	12,908	6,919	5,989
Cerebrovascular	6,149	3,203	2,946
Accidents	18,752	13,957	4,795

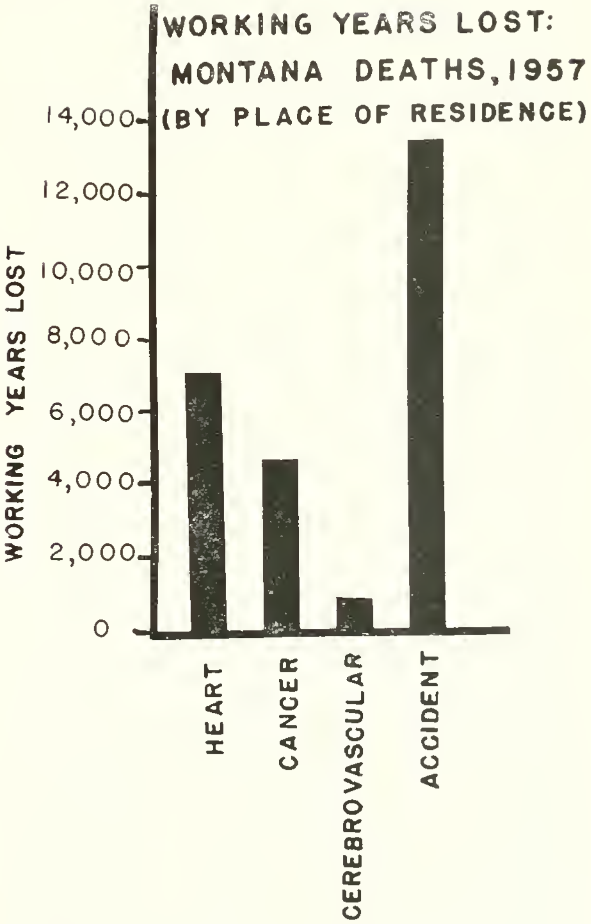


Using this measure of mortality, the graph shows that accidents have jumped from fourth place to second place among the four "leading causes" of death.

The information below shows the number of working years lost.

WORKING YEARS LOST IN MONTANA IN 1957

Cause	Total	Male	Female
Heart	7,190	5,392	1,798
Cancer	4,700	2,540	2,160
Cerebrovascular	935	566	369
Accidents	13,414	10,462	2,952



Using this measure as an evaluation of mortality, accidents were the leading cause of death in Montana in 1957, outranking every other cause of death during the working years of life. These are the years which represent the productive capacity of the people of the State.

PART II. PUBLIC HEALTH PROGRAMS

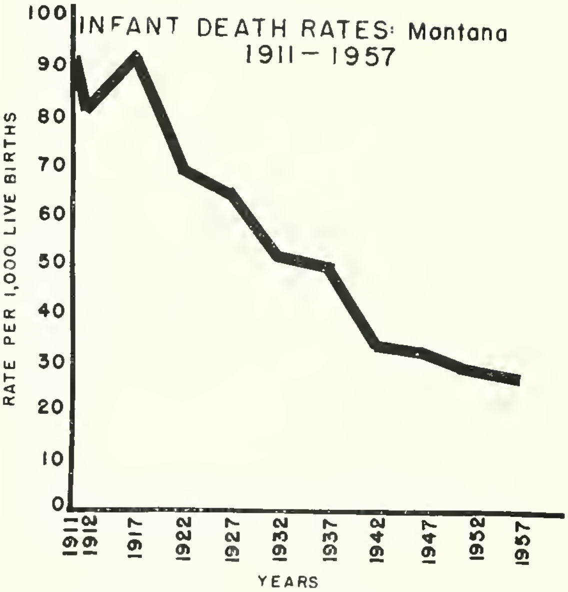
Child Health Services

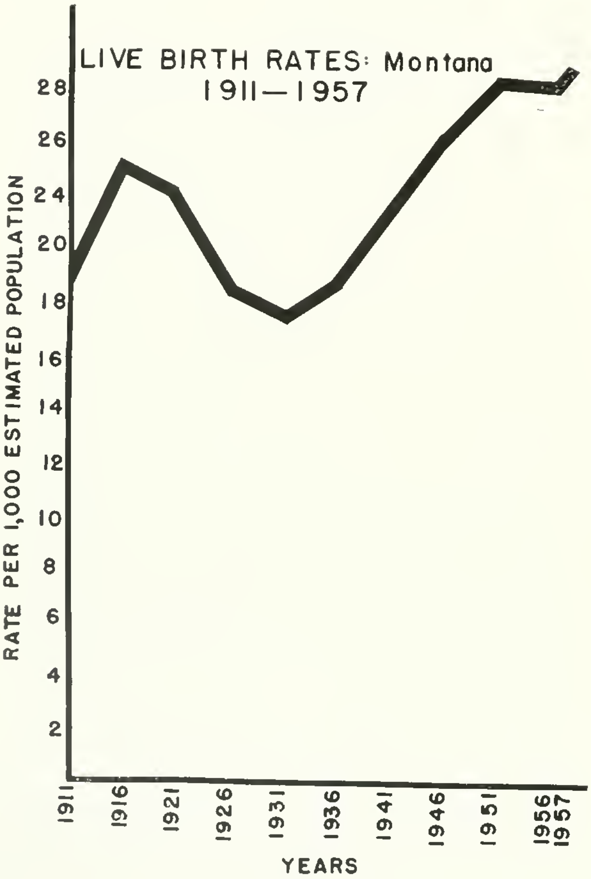
Maternal and Newborn Care

1957 marks the first year in history when the live births to mothers who were residents of Montana exceeded 18,000. The number of births for both years marked all-time highs with 17,702 for 1956, with a rate of 26.2 per 1,000 live births and 18,219 in 1957 with a rate of 26.9 per 1,000 live births.

Maternal deaths remained low with only two such deaths in 1956. This was a rate of 1.1 per 10,000 live births. In 1957 there were five maternal deaths with a rate of 2.5 per 10,000 live births. The 1956 and 1957 national figures are not yet available but it is anticipated Montana will be one of the lowest if not the lowest, particularly for 1956, in its maternal death rate.

The Montana rate for the last five year average is 2.0 and the ten year average is 5.0 per 10,000 live births.





In 1956 there were 495 infant deaths with a rate of 28.0, the highest since 1953 when it was 28.9. However, in 1957 the rate dropped to 25.4 with 462 infant deaths. The five year average is 26.0 and the ten year average is 27.2. Of these, the highest number is in the neonatal death group (infant born alive and died within the first 28 days), in which there were 343 deaths in 1956. This was a rate of 19.4. There were 318 deaths in 1957 with a rate of 17.5.

In no other State Board of Health program is there a closer relationship between physicians, nurses, hospital staffs and public health workers than in the program for Maternal and Newborn Care. The accomplishments made thus far are the result of the work of each of these groups.

During the biennium a permanent **State Committee for Maternal and Newborn Care** was formed. This committee has representatives from the Montana League for Nursing, the Maternal and Child Welfare Committee of the Montana Medical Association, the Montana State Board of Health and the Montana State Nurses' Association.

This committee was formed at the first Institute on this subject, sponsored by these groups, and attended by about 100 physicians and nurses. It was held in Helena in 1957.

This committee planned a second such Institute to be held in Billings, Missoula and Great Falls in the next biennium.

The Maternal and Child Welfare Committee of the MMA and the State Board of Health have continued their **maternal and infant mortality studies** and have provided consultation to the private physicians whenever requested.

The first two annual reports on **Infant and Neonatal Mortality and Stillbirth Rates by Montana Hospitals** have been made. The information was obtained from all hospitals in Montana doing obstetrics. This information included the number of live births, stillbirths, neonatal and infant deaths occurring in each hospital.

This information was compiled and distributed without identification, though each hospital was given its own individual rating. Each hospital was asked to have the report reviewed by administrators, medical and nursing staffs. They were also asked to consider where improvements can be made so as to assist in the reduction of premature infant deaths.

STUDIES
(In cooperation with Maternal and Child Welfare Committee of MMA)

1 Maternal Mortality Study

2 Neonatal Studies

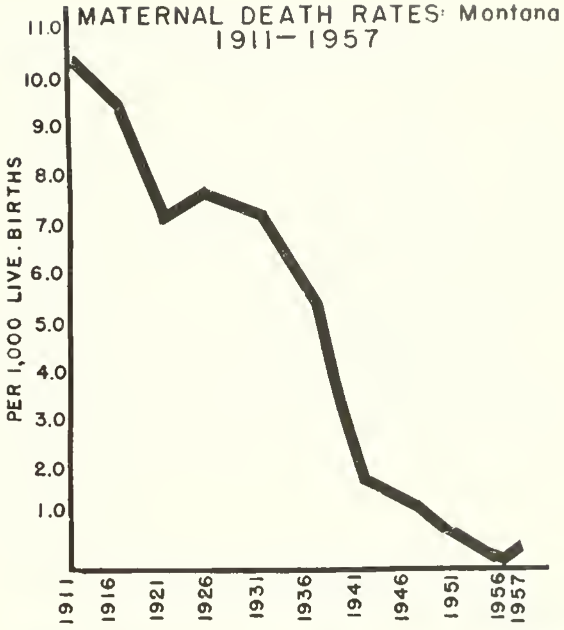
2 Infant and Neonatal Mortality and Stillbirth Rates by Montana Hospitals

LABORATORY SERVICES

11,465 premarital blood serology
26,825 prenatal blood serology
3,763 Rh determinations
Several infant diarrhea studies

EQUIPMENT AND SUPPLIES

10 oxygen analyzers and
15 incubators are available for loan
26,176 ampules of silver nitrate were distributed.



CONSULTATION

2 Medical

119 Nursing visits to Maternity Departments of Hospitals, 11 of which were on premature care.

IN-SERVICE TRAINING

19 Hospital nursing classes were taught for 215 nurses

26 sessions were conducted for 31 instructors with 374 student nurses. These were on premature care.

SURVEYS

49 newborn nursery surveys were made and recommendations given.

ADULT CLASSES FOR EXPECTANT PARENTS

10 conferences for local nurses were conducted

1,316 parents attended these classes conducted by hospital and local public health nurses (161 in 1956 and 1,155 in 1957)

Jayceens in Anaconda (Committee pictured above) and Butte sponsor Expectant Parent Classes. They have purchased materials, made nutrition charts, ordered and returned films, taken care of publicity and do many other things to assist the nurse instructors.

HOME VISITING

State PHN consultants visit local PHNs on regularly scheduled visits. These local nurses made 5,766 maternity visits.

MATERIALS REVISED AND DISTRIBUTED

Maternity Nursing Manual for Hospitals

Education for Parenthood Guide

Diet Check Sheets for Education for Parenthood

Nursing Care of Premature Infant (Pamphlet)

NEW MATERIALS PREPARED AND DISTRIBUTED

Leaflets with illustrations for non-readers.

EXHIBIT CONSTRUCTED AND DISPLAYED

Erythroblastosis for 1957 (MMA Meeting).

OTHER

Pamphlets, books, and films available upon request.

During the biennium work has continued in order to maintain high standards for the physical care of mothers and newborns. Emphasis has also been placed on saving the lives of more infants than was formerly possible. Efforts are directed to better inform parents about pregnancy, delivery and childbirth. It has been found that with more information and understanding the fears and tensions of expectant parents are reduced. This contributes to making pregnancy, delivery and childbirth a normal experience.

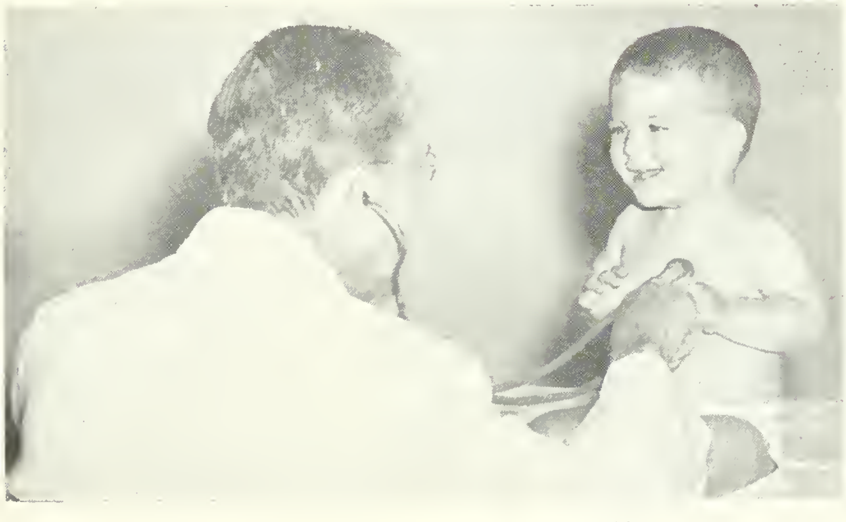
Infant and Pre-School

One of the outstanding events that has occurred in the promotion of the health of infants and pre-school children during the biennium is the adoption of the new and expanded policy of the P-T.A. for the health appraisal of children.

This new policy recommends a program of continuous health supervision of children from birth at periodic intervals through the school years, preferably by the child's own physician. It replaces the 32-year-old Summer-Roundup program which advocated a single health examination of pre-school children before entrance to school. The expanded scope of the program includes health education, consultation with parents, an awareness of health resources, including health department facilities in the community, and the promotion of school health councils.

This new and expanded policy is in conformity with earlier recommendations of medical, dental, school and public health groups in this State.

Public health nursing consultants visited local public health nurses regularly, and conducted three area nursing conferences to give assistance on home visiting techniques, and other needed information. The local public health nurses made 21,777 visits specifically to infants and preschool children.



Continuous health supervision of children contributes much to their physical, mental and social well-being.

The State Board of Health promotes Well-Child Conferences, chiefly as an educational program for parents. 487 such conferences were conducted in seven areas of the state by local physicians and public health personnel during this report period.

Educational materials are provided. These materials include films and books which are loaned upon request and literature is distributed.

The largest number of pamphlet materials —93,885, consists of a series of 12 infant care pamphlets, "Pierre, the Pelican." These are sent out, one each month to parents who have just had their first babies. They are designed to give guidance on child growth and development, and social behavior during the child's first year. These are received by parents with a great deal of enthusiasm. An evaluation on the usefulness of this publication is underway and will be completed early in the biennium.

10,058 children were seen at Well-Child Conferences in Montana during the biennium.

School Health Program

Continued work has been carried on in strengthening the three aspects of the school health program—school health services, health instruction and healthful school environment.

Coordination from the State level is done through the Joint Staff Committee. This committee, with representatives from the State Board of Health and the State Department of Public Instruction has met quarterly and with the committee's advisory council annually. An orientation program to the two State departments was held for staff members working in school health from both departments.

Consultation to local public health personnel and school faculties, including teacher training institutions has continued. Some demonstration teaching on public health department services has been done.

Four public health nursing area conferences have been held on the "Adolescent" and "Mental Retardation."

The "pilot phase" of the **Hearing Conservation Program,** initiated in Missoula in 1955 by the State Board of Health, with cooperation from the State Department of Public Instruction, was completed near the close of the biennium.

Adequately trained volunteers contributed materially in the "pilot phase" of the Missoula Conservation Hearing Program. The many volunteers reported for training faithfully and assumed responsibility well.

During the three-year period, every child in the Missoula elementary school system was given a hearing screening test. On the basis of the criteria established with the local physicians, 3% of them were found to have a medically significant hearing loss. National figures usually indicate that from 3-5% of the school population has a medically significant loss.

At the close of the biennium slightly over 65% of all children re-tested by trained personnel and referred for medical examination had been seen by their physicians.

Other findings of this pilot phase are: Increased parent and community education and parent conferences with the public health nurse and school authorities seem to be important factors in numerically raising the percentage of students with hearing problems who are seen by a physician.

Group conferences with parents of children who have a hearing loss have proven effective in helping parents gain an understanding of the effects of a hearing loss to the child.

Volunteer participation has been shown to be of material assistance.

A direct correlation in the effectiveness of the program has been noted in relationship to teacher and principal participation. In schools where the principal and teachers have been working closely with the public health nurse, a positive motivating factor has been apparent. In these schools almost 100% of the children referred for medical examination have been seen by the family physician and/or otolaryngologist or have made appointments to do so.

This health service program and the health instruction both become more meaningful when the two go hand-in-hand.

Physician participation on the professional services committee is very helpful, especially in determining policies and criteria for referral, and to gain an understanding of the program as a whole.

It has also been found that without adequate public health nursing service as a part of the program, it is impossible to obtain adequate follow-up services. Failure on the part

Assistance is given local staff in the initiation of joint meetings between public health, school, medical and dental personnel in the development of school health policies, as well as over-all plans for the school health program.

of the parents to obtain qualified medical advice and to follow such advice after referral voids the efforts of everyone in the screening program and the child is not benefited. Through public health nursing work with the families, such failures are kept at a minimum.

Another very important finding is that any community undertaking such a program needs a strong, effective co-ordinator in the local organization. This person needs to be given the time and the authority to serve in this capacity.

These findings and others will be recommended by the two state departments to other local areas who are developing hearing conservation programs. It is also expected that the Missoula program will incorporate the findings in the strengthening of its program.

In-service training for local public health nurses has been carried on for their participation in the **high school classes on "Education for Parenthood."** The local public health nurses have reached 255 high school students in 1956 and 466 in 1957. This section of instruction, taught by the public health nurses is a part of the unit on "Family Life" in the third year of Home Making in the high schools.

Assistance has been given State and local P.T.A. groups in program planning for health activities. There has been participation in the State and local P.T.A. meetings.

Some screening examinations are given by local full-time health officers with assistance from public health nurses. Children found with defects are referred to their family physicians for care.

Revision of the "Guide for the School Health Program" is continuing. Laws relating to school health have been assembled and will be available for distribution early in the next binenium. The wall chart, "Communicable Disease Information for Schools" was revised and 5,000 copies distributed. "A School Environment Guide" was prepared and 3,000 copies distributed. 134,774 School Health Records have been distributed. The "Notice to Parents" form was revised and a "Health Service Excuse Form" developed for school use.

Pamphlet materials are distributed to schools upon request and films are loaned.

Nurse-Teacher Conferences provide an opportunity for the exchange of information between nurse and teacher. Referrals are made by the teacher to the nurse who follows through in parent visits. 53,633 such visits were made by local public health nurses during the biennium.

Crippled Children's Services

In reviewing the Crippled Children's program, a great many changes have occurred. Many of them are gradual trends and others are changes that have occurred rapidly. This report lists some of these trends which are of particular interest and have been most significant during the last three to five years.

One of the changes which is particularly noteworthy is the **shifting of one type of service to another.** This is noted in Table 1, p. 37, which shows that the number of children who are being seen by physicians, other than at Crippled Children's Clinics (primarily in their offices) has more than doubled.

During this same period the number of clinics has been reduced by more than half; the number of children examined at clinics has been reduced about half, while the number of clinic visits has been reduced to a little less than half. These changes are reflected in Table 2 below.

TABLE I

Number of Children Receiving Services by Physicians, (Offices, Home, Etc.) by Calendar Years

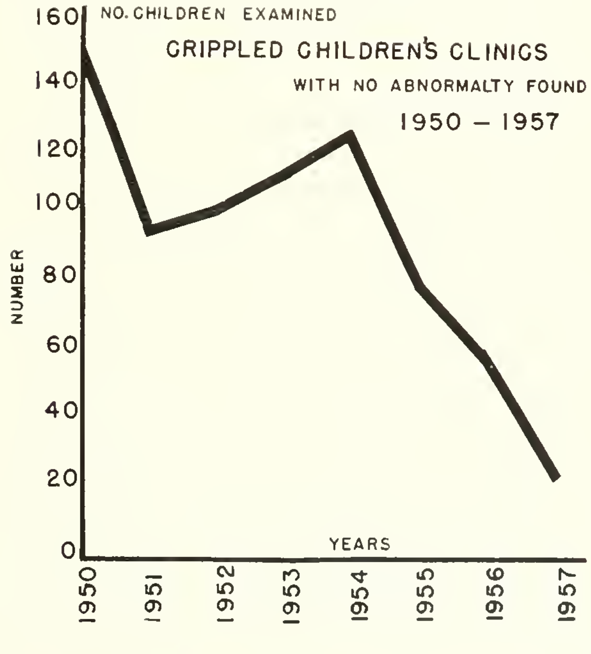
1952	1953	1954	1955	1956	1957	Total for 5-Year Period
231	259	268	300	365	470	1,893
Number of Physician Visits or Days of Care (Office, Home, Etc.)						
703	742	662	839	1,055	1,697	5,698

TABLE 2

Crippled Children's Clinic Services

Calendar Year	Number of Clinics	Number of Children Examined	Number of Clinic Visits
1952	32	1,654	2,021
1953	32	1,697	2,063
1954	32	1,639	1,987
1955	22	1,211	1,326
1956	14	977	1,008
1957	13	862	895

An analysis was made of the Crippled Children's Clinics during the 1957 calendar year and it was found that some of the trends started several years ago are continuing. Among them are: (1) that the number of children referred to the Crippled Children's Clinics for examination, when no abnormality was found, has decreased as indicated on the graph below:



(2) The number of children with severe crippling conditions who have not had care are decreasing (3) The average age at which the children are coming to the clinics is lower than it was several years ago. (4) There is a change from the orthopedic crippling conditions to more children with: rheumatic fever, metabolic and neurological conditions, and with congenital malformations which are non-orthopedic in nature, such as congenital heart disease and cleft palate.

The analysis also indicates that an increasing number of referrals are being made only to the pediatrician at the clinics; that many of the children seen could not have been examined without financial assistance to the family; and that the cost of the clinics is less than the cost would have been had all these children been referred directly to an orthopedist or a pediatrician. An attempt has been made to arrive at the lowest cost method of seeing these children through a combination of clinics and office visits which will be in the best interests of the children.

The clinics provide not only case-finding, but also help motivate parents to obtain proper care for their children. The clinics bring specialist services nearer many children who live from 100-300 miles from such service.

The total number of Crippled Children's Clinics held during the biennium was 25 and 1,765 children were seen.

As indicated in the analysis of the 1957 Clinics the kinds of cases for whom care is provided are changing. This will be noted in tables 3 and 4 below. These tables show the increases in the case load in acute Rheumatic Fever, Congenital Malformations of the Circulatory System and Chronic Rheumatic Heart Disease; and in the Neurosurgery and Plastic Surgery Cases.

TABLE 3

Increases in Crippled Children's Case Load in Rheumatic Fever, Acute; Congenital Malformation of Circulatory System and Chronic Rheumatic Heart Disease, by Calendar Years 1950-57

	1950	1951	1952	1953	1954	1955	1956	1957
Rheumatic fever, Acute	7	14	5	8	25	33	19	19
Congenital Malformation of Circulatory System	6	3	1	22	35	50	39	58
Chronic Rheumatic Heart Disease	1	2	4	4	3	3	5	3
TOTALS	14	19	10	34	63	86	63	80

TABLE 4

Neurological Surgery
Calendar Years 1955-1957

	1955	1956	1957	Total
No. Children	14	21	20	55
No. Days of Hospitalization	15	376	143	534

Under the Congenital Heart and Rheumatic Fever Program surgery and hospitalization, with medical supervision pre-operatively and post-operatively, are provided.

The Board's Rheumatic Fever and Heart Diagnostic Center in Great Falls which is described in the Disease Control Section of this report is providing a resource in the State that is of very special benefit to the Crippled Children's Services. Without the Center in Montana, children had to be sent to Minneapolis, Denver, Seattle or even farther away for heart diagnostic work. The services secured from this resource by the Crippled Children's Program are included in the table on p. 54. Of the 146 persons seen at the Heart Diagnostic Center during 1956, 102 of them are on the Crippled Children's register; of the 172 persons seen in 1957, 107 of them are on this register.

Hospitalization for the acute rheumatic fever cases is limited to 2 weeks; convalescent care is provided when necessary, at Shodair Hospital in Helena under a special financial arrangement. Prophylactic penicillin, a preventive for the reoccurrence of Rheumatic Fever, has been provided for 128 children during the biennium.

6,109 public health nursing visits were made during the biennium to insure continuity of care and to give assistance to the families.

The number of children on the Crippled Children's Register for the last five years on December 31 of each year was:

1952	4,064
1953	4,526
1954	4,968
1955	4,890
1956	5,028
1957	5,281

Another trend is **the need for increased funds.** This is not only because most costs have risen, but also because there are more cases in the program which are very "expensive." Advancement in medical care procedures makes necessary the acceptance of many cases because corrective care for them is now possible to a greater extent than ever before. These procedures require highly trained and skilled specialists and costly new equipment. Plastic and heart surgery and neuro-surgery are examples of this.

Another **significant trend** is the **development** in Montana of **many medical and surgical specialist services** within recent years, to the point where now it is possible to obtain most of these specialized services within the State. The Crippled Children's Program has played a direct role in helping many of these specialized services be established, with such services being available to patients on a private physician basis as well as to all public agencies needing them.

For many years the services of physical, speech and hearing, and occupational therapists were unavailable in the State. Now there are such services in many areas of the State.

Orthodontists, prosthodontists and other specialists in cleft lip-cleft palate repair in the State have extended their special training within the last few years.

Providing care within the State for these difficult cases brings many of them to light who were previously unknown. When parents hear of resources within accessible distance they are motivated to seek care more readily for their handicapped children.

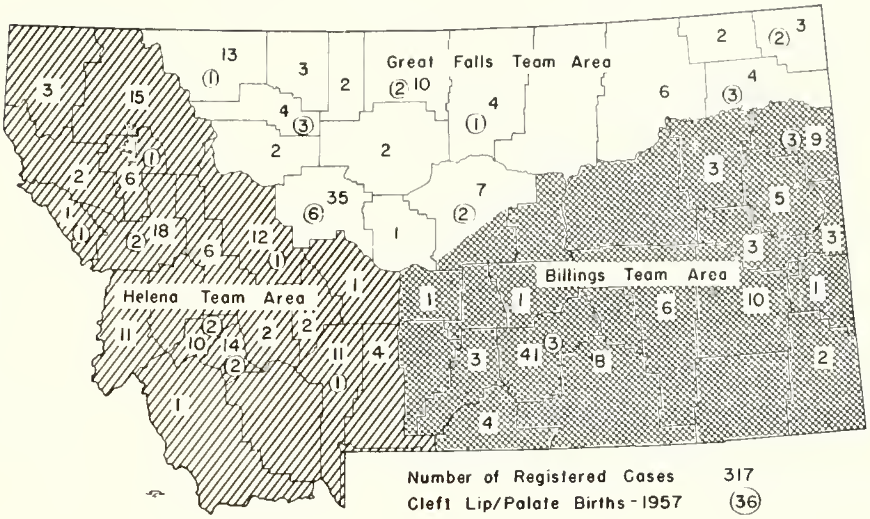
TABLE 5

Hospitalization of Children For All Crippled Children's Services
1952-1957 (by calendar year)

	1952	1953	1954	1955	1956	1957	Total 5-Year Period
No. Children Hospitalized	123	155	181	165	195	217	1,036
No. Days of Hospitalization	2561	4070	4809	3051	3314	2829	20,634

Another change of interest is that the **number of children hospitalized has risen about 76%, while the total number of days of hospitalization has increased by only 11%.** This is shown in Table 5 above.

Montana Cleft Lip and Palate Program


Great Falls Team Area
Helena Team Area
Billings Team Area
Number of Registered Cases 317
Cleft Lip/Palate Births - 1957 (36)

Teams are located at Billings, Great Falls and Helena. Number shown in each county indicates the number of children from the county registered in the program and the number in the circle shows the number of cleft lip-cleft palate births from the county during 1957.

With the tremendous increase in hospital costs, the hospitalization of this increased number of children would have been impossible with the funds which have been available for this purpose.

"The Program for Children with Cleft Lip-Cleft Palate" has been greatly improved due to the progress being made in the "Team Management" of these cases.

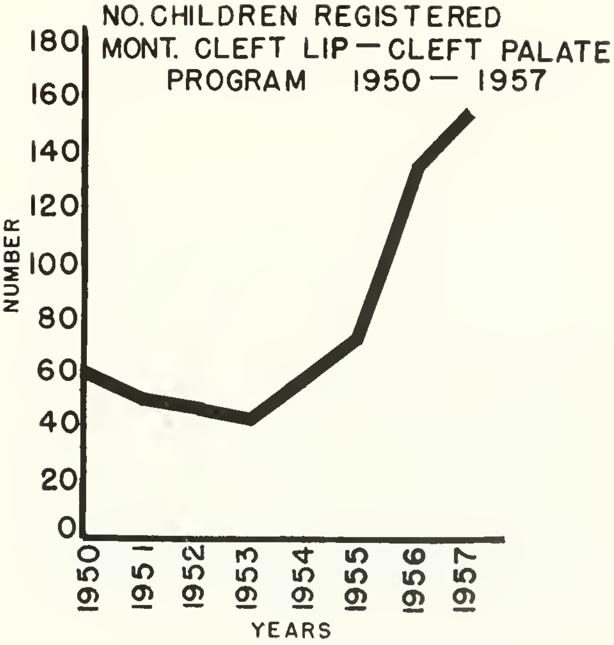
Montana has three of the 46 Cleft Lip-Cleft Palate Teams actively functioning in the United States. These teams serve the children referred from all parts of the State.

The unique feature of this program is the "team concept" which is relatively new. The need for a team of specialists is due to the complexity of these problems. These team members are concerned with: surgery, pediatrics, orthodontics, prosthodontics, speech therapy, and psychology. Also available are the services of public health nursing and medical social work. The State Board of Health speech and hearing consultant serves as the team coordinator.

The program is financed by a five-year grant to the State Board of Health by the U.S. Children's Bureau. At the beginning of the project in 1955 it was estimated that there were between 450 and 500 cleft lip and/or cleft palate children living in Montana (under age 21), who had not had the benefit of the combined resources afforded by the "team approach." Many of these children had received prior care under the State Crippled Children's program.

The initiation of this current special project was designed to provide the necessary services for this initial backlog of cases, as well as to initiate services to the newborn cleft lip-cleft palate children. It is anticipated that the original backlog of older cases will have received the necessary care by 1960.

At this time the program's structure will be adapted to provide through the regular Crippled Children's funds the continuing services for the estimated 30 new admissions each year. Of these new cases, approximately 25 are born in the State and the others are new cases who moved into the State.


NO. CHILDREN REGISTERED
MONT. CLEFT LIP — CLEFT PALATE
PROGRAM 1950 — 1957

Surgeon Examines Child.

During the biennium 64 cleft lip-cleft palate births occurred in the State. Of this number 47 are registered in the program. A total of 317 children under 21 years of age are registered.

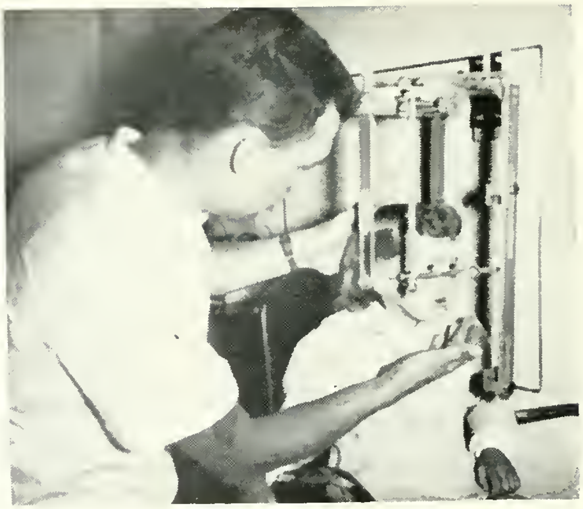
Since the initiation of the program to the end of the report period the following services have been given:

- 248 separate evaluations
- 100 separate surgical procedures
- 172 authorizations for diagnostic services, such as: facial masks, dental models, cephalometric x-rays
- 103 dental procedures, including 26 orthodontic, 48 prosthodontia and 29 operative dentistry procedures
- 1,049 days of hospitalization were authorized.

It was during this biennium that the services of a psychologist and a medical social worker were added to the teams as an aid in the over-all rehabilitation effort.

More emphasis has been placed on diagnostic procedures during the biennium. Since May 1957 operative dentistry has been included among the services. This service has proven to be very effective for without it, in the past, progress on some cases has been interrupted due to the fact that the child did not have a healthy set of teeth upon which to base further orthodontia or prosthodontia work.

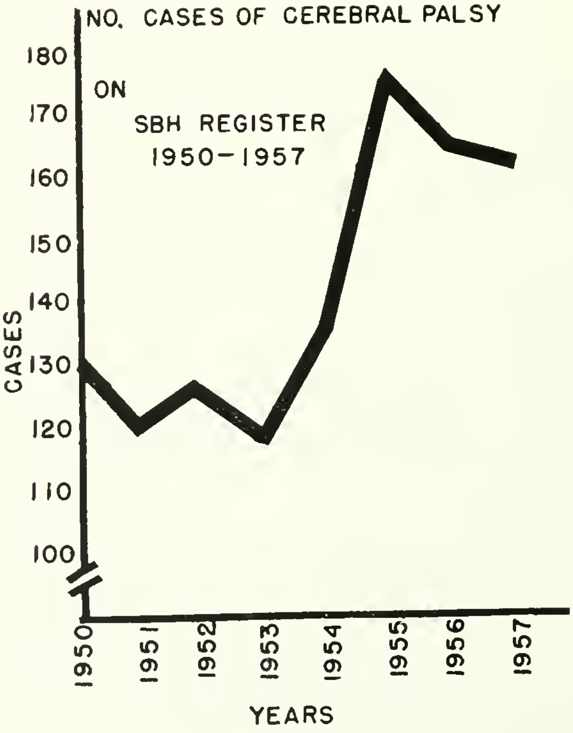
Plans have been developed to increase both professional and lay education and more frequent contact with the parents will be made through public health nursing services.



Technician taking cephalometric x-ray.

"The Center for Cerebral Palsy and Handicapped Children" in Billings is attaining more of the objectives which were originally planned for the Center to carry out.

Since 1957, the Center which was established in 1946, has been sponsored by the Montana State Board of Health, the Eastern Montana College of Education, and the Billings School District.



417 clinics have been held at the Center. At these clinics 309 evaluations have been made which compares with 217 during the last biennium. Of these 143 were seen for the first time and 51 of these children have attended the school at the Center.

Child seen at the clinic for Cerebral Palsy and Handicapped children.

It is administered by a Board with representation from each of the sponsoring agencies. Prior to July 1957, the Montana Society for Crippled Children and Adults, also participated as a Center sponsor financially, and had membership on the Board.

The Billings Kiwanis Club which has financially supported the Center from its inception through the Easter Seal Agency, continues financial assistance to the Center by direct participation on a special need basis. The Club works closely with the Board through a representative invited to participate in the Board discussions.

The Center, originally limited to children with Cerebral Palsy, has included children with other handicaps for many years. It also includes both school and pre-school children. While the Center primarily provides health services for these children, it also includes a classroom teaching program since many of the children seen at the Center are unable to attend their regular schools

For many of the children, especially the pre-school age, the teaching program is as much a part of the actual therapy as is the medical service, and therefore needs the coordination of services which the Center provides.

The Center is handicapped in the acceptance of many of the children who would benefit, because it lacks domicillary facilities. Children, therefore, must have their homes in Billings, or be acceptable to foster home parents. Special transportation is also needed for many of them.

During the biennium the Center program has greatly improved. A psychologist has been added to the staff. The team concept of care has been strengthened by the close staff relations between the Center staff, particularly the teachers and the Billings' school staff.

Increased integration of the Center's service with the academic program of the College, one of the original purposes of the Center in 1946, has progressed substantially so that future teachers graduating from the College will be better prepared in regular and special education work in dealing with handicapped children.

This integration is particularly well developed in the speech and hearing area where the program of the College and the Center have been completely integrated to avoid duplication and confusion.

Education.

Physical Therapy.

Speech and Hearing Therapy

Occupational Therapy.

The position of Coordinator, vacated during the latter part of the biennium, was reviewed and changed to Coordinator and Educational Director. This was done to strengthen the educational part of the program.

The position also carries the title of Assistant Professor at the College. In addition to the medical director, the coordinator and educational director, the staff consists of persons qualified in surgery, pediatrics, speech and hearing therapy, occupational therapy, physical therapy, psychology, public health nursing and special education and teacher training. Various other specialists in medicine and education are available when needed.

The Center is also used for observation in student nurse training from the Montana State College School of Nursing and the Carroll College School of Nursing when the students are in residence at the hospitals in Billings.

Dental Health

Dental surveys were conducted in five communities during the biennium. These communities were Lewistown, Butte, Sidney, Circle and Fairview.

The table below shows the average number of decayed, missing or filled permanent teeth per child examined for each of these communities. The table includes four selected age groups.

Preliminary survey by local dentists in Bozeman School library. This preliminary survey was made to determine the benefits of the controlled fluoridation of the public water supply in Bozeman.

	Fluoride Content				
	Less than 1 ppm*			1 or more ppm	
Age in Years	Butte	Sidney	Lewistown	Circle	Fairview
9	3.27	2.5	2.21	1.7	1.1
10	4.27	3.0	2.35	1.8	1.0
11	5.80	2.9	2.78	2.7	1.8
12	7.30	4.7	3.71	2.6	2.3

The fluoride content of the Butte water supply is 0.2 ppm and in Sidney it is 0.3 ppm, while in Circle and Fairview the natural fluoride content is 3.3 ppm and 2.1 ppm. The incidence of decayed, missing and filled teeth is from two to three times higher in communities where the fluorides in the public water supplies are less than 1 ppm. The table shows that the 12-year-olds in Butte have almost three times as many decayed, missing and filled teeth as the 12-year-olds in Circle and Fairview.

The incidence of dental decay in Lewistown where the fluoride content is 0.5 ppm, which is half the recommended amount, is approximately half that in Butte and about one-third higher than in Circle and Fairview.

The purpose of the dental surveys is (1) to determine the dental needs of the children in the community. However, they also serve to (2) motivate a better dental education program in the schools and provide a more meaningful educational experience for the children; (3) call attention of parents to the need for continued dental supervision and early treatment when needed; (4) point up the need for improved dental caries preventative measures in the community.

The clinical examinations were done by the local dentists and in Circle where there was no local dentist the clinical examinations were done by the State Dental Director.

The larger the community, the more staff it takes to conduct the clinical examinations. In Butte, for instance, 1,300 children in 6 schools were involved. It took 24 dentists who volunteered their services; teacher and principals in the six schools; 79 volunteers from the Butte public and parochial schools Parent-Teacher groups; the local public health nurses; as well as the State public health personnel.

The city of Laurel began the **fluoridation of its municipal water supply** in February 1958.

The natural fluoride content in the Laurel public water supply is 0.5 ppm. Therefore it is necessary to add only enough fluorides to bring the rate from this amount to 1.0 ppm, which is the recommended amount.

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* ppm—parts per million

Other Montana cities currently fluoridating the public water supplies are Miles City, Roundup, Chinook, and Bozeman.

A preliminary survey of the effects of fluoridation in the Bozeman municipal water supply was done in October 1956. Although Bozeman had been fluoridating only since July 1953, a little over three years, the survey already showed a reduction in the incidence of dental caries of 26%. It is anticipated that the results at the end of ten years, for children drinking fluoridated water all their lives, will be similar to studies made elsewhere in the United States and the world of about a 60% over-all reduction in dental caries.

An annual study is made of the existing dental services at the eight State Institutions in Montana. This is done in an effort to determine the State-wide status in regard to dental care for the persons who live in these institutions. It is also done in order that the best care possible can be provided for them. After the dental services are reviewed the Dental Director makes recommendations where needed to the institutional superintendent. Supervision of the dentists in these institutions is a legal responsibility of the State Board of Health.

Professional and public education programs have been carried on. In October 1956, a two-day postgraduate course in "Dentistry for Children" was held in Livingston. It was the third such course offered to the dentists of the State by the State Board of Health in cooperation with the Montana State Dental Association.

Assistance was provided in Butte for educational programs in the school and community. Community education assistance was given in Helena. Educational articles and materials have been prepared. 8,933 pamphlets on dental health were distributed.

The State Laboratory has provided increased services to dentists in the "lactobacilli count program". This service is provided because there is a definite correlation between the number of lactobacilli present in the mouth and that of the incidence of dental caries. The number of lactobacilli can be controlled by a dietary program resulting in a decided reduction in the incidence of dental decay.

After the dentist gets the "count" data, he can assist the patient to adjust his diet, thus reducing the lactobacilli in the mouth and therefore the incidence of dental caries.

This program was initiated during the last few months of the last biennium. During that time 227 specimens were examined. During the current biennium the number of specimens examined has increased to 1,243.

* * *

Richland County Health Council and Sidney P.-T.A. found the immunization status in the county lower than expected.

Disease Control

Disease Reporting

The years 1956 and 1957 saw few significant changes in the numbers of diseases reported by Montana physicians to the State Board of Health.

Of the reportable diseases, quite a few are virtually unknown in the State. Others, some of which in the past have been problems, are now becoming increasingly rare: malaria, rabies (in Man), smallpox, tetanus, Rocky Mountain Spotted Fever, chancroid and typhoid fever. Of principle interest is that **1957 marked the fifth consecutive year without smallpox.**

With 14 cases of **diphtheria** occurring in 1957, it is obvious that immunization levels in some areas are inadequate, and relatively little improvement over the 1951-55 median has occurred.

In Richland County, an interesting survey was made to determine the immunization status of children from infancy through the second grade. It was conducted by the Richland County Health Council and the Sidney P-T.A. with assistance from the State Board of Health.

The results of this survey may be typical of many Montana communities. The chart below shows the part of the total number of children in the survey who were **unprotected.**

			POLIO	
	Small-pox	Diphtheria, Whooping Cough and Tetanus	1st and 2nd Shots	3rd Shot
Sidney	1/3	1/5	1/4	1/3
Rest of County	1/2	1/3	1/4	1/3

Booster shots of D.P.T. (to protect them against diphtheria, pertussis—whooping cough—and tetanus) were needed by a large percentage of the children in both groups.

Certain Montana counties with full-time health departments of long standing have well developed immunization programs operating in close cooperation with the private physicians. In Cascade and Gallatin, in particular, immunization levels are very satisfactory with usually more than 85-90% of the school age children fully protected.

Dysentery (amoebic and bacillary), **infectious hepatitis, salmonella infections,** (including typhoid and paratyphoid) are all indicators of community and personal hygiene. 1956 and 1957 were epidemic years for infectious hepatitis. Typhoid has decreased, but all other salmonella are increasing, though possibly as a result of better reporting. 1956, with 265 reported cases, was an epidemic year for bacillary dysentery.

1,073 cases of **whooping cough** and two deaths were reported in 1957. This is not an indicator of vaccination however, since this disease does occur in a milder form in well-immunized children.

Cancer is one of the diseases which are characteristically under-reported. Both 1956 and 1957 fell far below the previous 5-year median. Complete reporting of cancer is essential to the epidemiologic evaluation of this disease as it occurs in the different counties, races, occupational groups, etc., of the State.

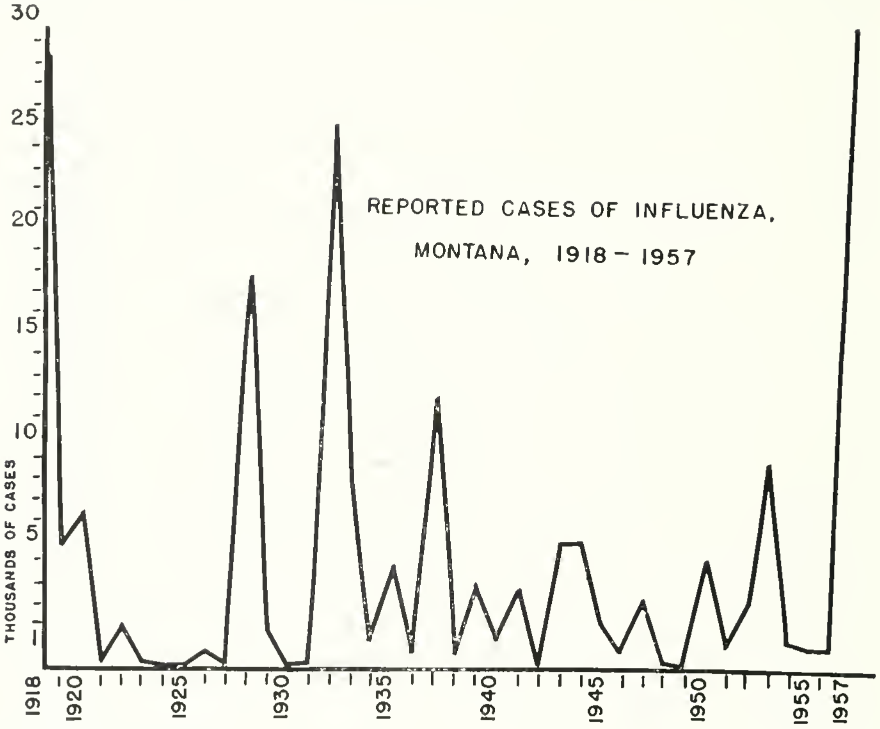
Epilepsy, occupational diseases, and **rheumatic fever** are examples of other diseases which are of considerable importance to health and welfare but seldom, if ever, reported.

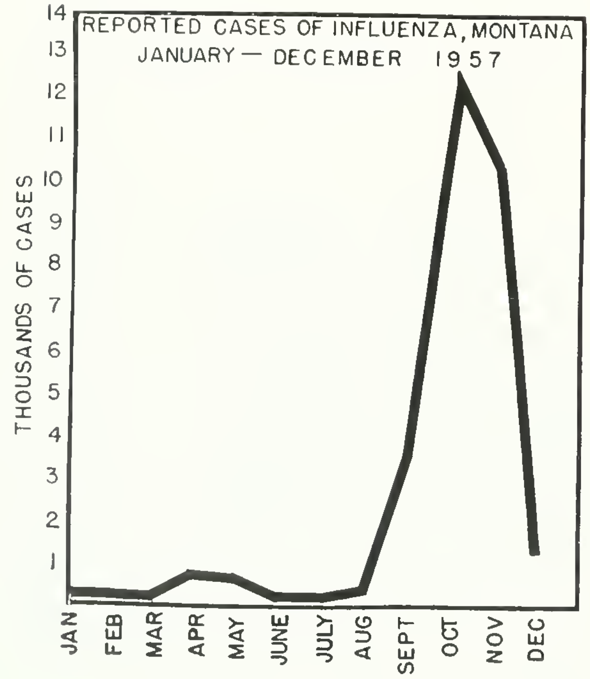
During this report period the **Communicable Disease Rules and Regulations** previously revised and adopted were reprinted and 1,200 copies distributed. At the request of the Montana Medical Association a summary of reportable disease information, "Physicians Quick Reference Chart" was prepared and 800 copies distributed.

Virus Diseases Assume Increasing Importance

Asian Influenza

The 1957 epidemic of **Asian Influenza** (30,692 reported cases) can properly be compared with the epidemic years of 1918 (29,149 cases); 1938 (18,655 cases); and 1932 (25,984 cases). In Montana, as elsewhere in the nation, there was concern that sharp epidemics of influenza might paralyze essential community services. Accordingly an Advisory Committee on Influenza was appointed by the Governor and recommendations were made for certain criteria in the use of the Asian Influenza vaccine during the period of short supply. The priorities were removed when the vaccine supply became sufficiently available.





The newly established Virus Laboratory of the State Board of Health was called upon during this epidemic period to confirm the causative strain of influenza involved. A large number of throat washings and blood specimens were received from a number of communities throughout the State. Epidemiologically, it was not necessary to confirm the diagnosis in every case, and 66 positive serologies and 10 virus isolations were more than sufficient to establish the virus of Asian Influenza as the causative agent.

Despite the large number of cases, only 25 deaths were attributed to Influenza during this period, with 21 of the deaths occurring in age groups over 60.

Poliomyelitis

Vaccination against poliomyelitis lags. At the end of the biennium, an estimated 200,000 Montanans under the age of 40 had not had adequate protection against poliomyelitis. Considering the fear which this disease engenders and the information made available concerning the effectiveness and safety of the vaccine, the failure of so sizable a percentage of the population to take advantage of this protection is difficult to explain.

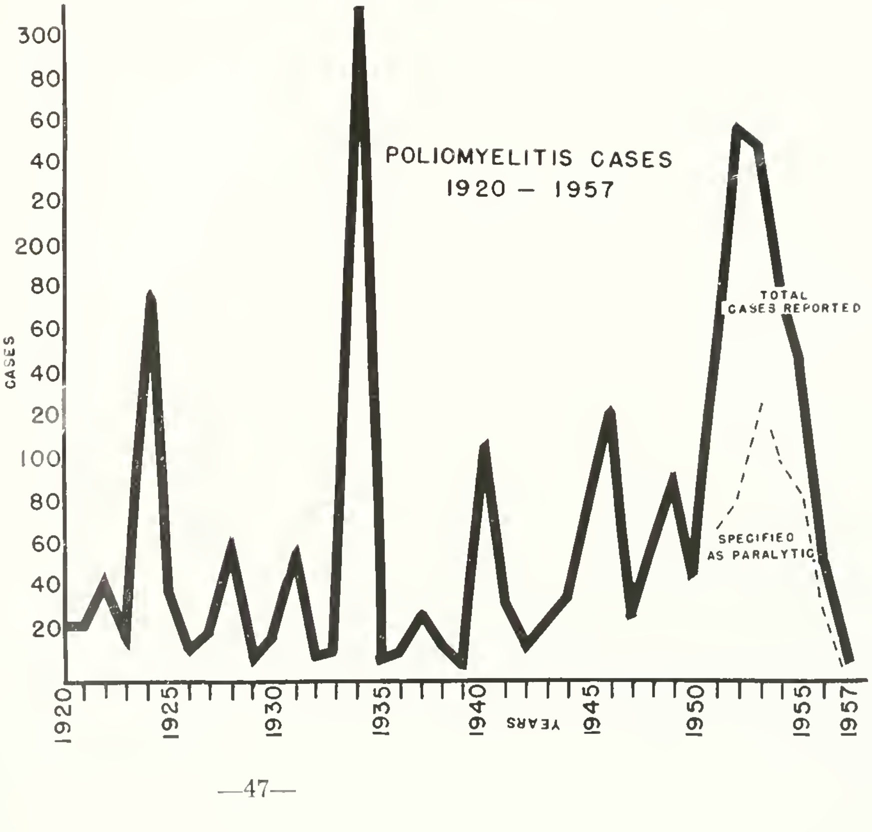
The full effect of the Salk vaccine has, of course, not yet been felt in Montana. This is due to the fact that the years since its introduction would normally be expected to be low incidence years.

1951 to 1955 were epidemic years for poliomyelitis in Montana. At the time of the wide scale introduction of the Salk vaccine in late 1955, the incidence of this disease was already declining sharply, as can be seen in the graph below.

Some of the credit for this decline is, however, undoubtedly due to the vaccine itself.

It is interesting to note that of the 55 polio cases of 1956, no case was reported as having received a complete series of vaccinations. In 1957, of 12 reported cases, only one, a non-paralytic case, had received a series of three shots. In the first half of 1958, of eleven cases (ten of which were paralytic), none were fully vaccinated.

The vaccine does not prevent infection with the polio virus, but it is of value in preventing paralysis. In the next epidemic year, which could be anytime from 1958 onward, the curve which is presently downward, could easily be reversed by large numbers of paralytic cases if a large number of the population remains unvaccinated.



Vaccination programs in Montana began with the field trials of 1954, during which time 3,130 children were immunized. These field trials, involving four counties were sponsored and supported financially by the National Foundation for Infantile Paralysis. They were carried out by the State Board of Health with the cooperation of local physicians, public health staff and volunteers.

In the spring of 1955, the State Board of Health received polio vaccine from the NFIP for the first and second grade school children in Montana. During this period 11,430 children were given two doses of polio vaccine.

In September 1955 Montana received its first shipment of Federally financed vaccine. This was made possible through the passage of the Federal Polio Vaccine Assistance Act of 1955 which became active in July 1955. This program ended on June 30, 1957.

On the National and State levels advisory committees were extremely helpful during the field trials and also during the time of the Voluntary Control Program.

In 1955 when polio vaccine was expected to be available to the public, a Voluntary Control Program was adopted nationally by the President's National Advisory Committee. This Committee consisted of representatives of the

American Medical Association, the American Pharmaceutical Association, the polio vaccine producers, and other related national professional organizations and the lay public.

Beginning with the field trials, the Montana Medical Association's Special Polio Committee began meeting and advising. This MMA committee was broadened at the time of the Voluntary Control Program. It included a representative of the Montana Pharmaceutical Association and a representative of the Montana Congress of Parents and Teachers. With these additions the committee became the **State Polio Advisory Committee.**

The Governor designated the Executive Officer of the State Board of Health to maintain relationships with the National Advisory Committee.

Through the State Polio Advisory Committee, a **State Plan** for the use of polio vaccine in Montana **was developed** and concurred in by the State Board of Health.

From each vaccine producer's release of vaccine, the National Advisory Committee set up the allocation of the vaccine to the States. This allocation was based on the then eligible population groups.

In the beginning, the eligible group consisted of children between the ages of five and nine years. It was later broadened by steps to include persons of other age groups until it finally included adults. The age group extensions were established on the basis of susceptibility to polio and to the amount of vaccine available.

Montana's allotment of vaccine from each manufacturer's release was distributed into both the commercial and public channels, so that at all times the vaccine was available for use in the State in both channels.

Some of the problems of arriving at an equitable distribution of the vaccine were that: (1) the availability of the vaccine did not always coincide with the demand, (2) during the voluntary control program the releases of vaccine were as small as 1500 c.c.'s, with a large number varying from 1500 c.c.'s to 5,000 c.c.'s. That made an equal distribution of each release by county or by physician impracticable. (3) The State Board of Health did not have control over commercial shipments of vaccine received in Montana.

Through the analysis of reports from manufacturers of all vaccine shipped into the State, the reports of its sale by pharmacists and the reports of its use by local physicians, the State Board of Health advised manufacturers of inequitable distribution when it occurred. Manufacturers reporting was complete, and while reporting of individual pharmacists and physicians in the State was not complete in some areas, the cumulative data was most valuable in identifying the trends and use of vaccine in the counties. However, through the cooperation of manufacturers, pharmacists and physicians an **equitable distribution plan** as it related to demand and availability operated between the time of the first allocation of vaccine on July 31, 1955 until the controls were lifted on July 26, 1956.

Initially most of the vaccine was released commercially. Of the first 43,000 c.c.'s released by September 1955, 38,700 c.c.'s went into commercial channels, 4300 c.c.'s into public channels. By February 1956 when 105,000 c.c.'s had been released to the State, the vaccine was divided equally between public and commercial channels.

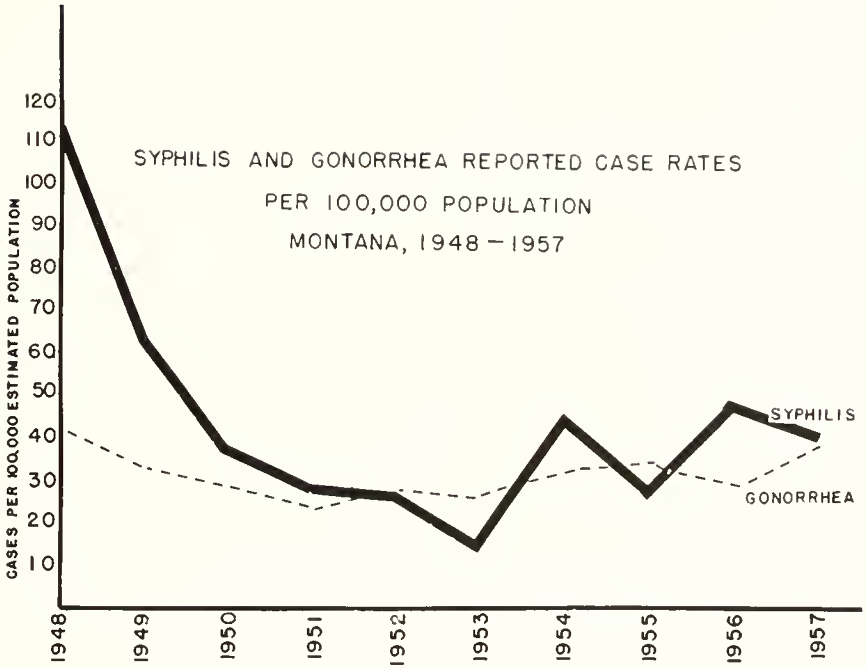
By the end of the control period the public vaccine slightly exceeded the commercial vaccine. The total amount allocated to Montana was 331,146 c.c.'s of which commercial channels received 159,651 c.c.'s and 171,495 c.c.'s went into public channels.

From the beginning of the voluntary control program to the end of June 30, 1958, 774,558 c.c.'s of vaccine were received in Montana of which amount Federal funds purchased 259,872 c.c.'s.

The **use of Federally financed polio vaccine** at the local level was based on a plan of local operation which was adopted by the SBH upon advice of the State Polio Advisory Committee.

Several counties that at first refused the Federal vaccine program later accepted it. It was unavoidable that counties rejecting the Federal vaccine faced some inequity in the availability of vaccine in as much as the control program could not assure any compensatory increase in the amount available through commercial channels.

Most of the public vaccine allotted to the State during the period of control was air-shipped in bulk to the SBH in Helena and immediately redistributed.



On the other hand, commercial allocations required additional time for individual shipments by the manufacturers to local physicians or local pharmacists. Very little of the vaccine was through wholesale channels during the control program.

Polio vaccine purchased with Federal funds was used in the counties according to local community option as follows:

	Start	End
Vaccine used exclusively public clinics	16 Counties	15 Counties
Vaccine used exclusively through private physicians' offices	24 Counties	13 Counties
Vaccine used both in public clinics and private offices	9 Counties	23 Counties
Vaccine rejected	6 Counties	3 Counties
Vaccine rejected in some communities and accepted in others	1 County	2 Counties
TOTAL	56	56

Federal funds allocated to the State Board of Health for the purchase of polio vaccine amounted to $172,222.00. Added to this were funds from local tax money, local contributions by various groups, particularly the P.T.A.'s and the local chapters of the NFIP, totaling $11,659.28, making a grand total of $183,881.28.

From June 30, 1957 onward, vaccinations were administered either by private physicians or on an individual basis or in locally sponsored clinics with local funds.

With the utilization of vaccine which protects, not against infection, but against paralysis, it becomes particularly important to confirm, by laboratory methods, each community outbreak.

The State virus laboratory undertook this work in their temporary quarters in Helena in January 1958. Of the eleven cases occurring during the last six months of the biennium, the diagnosis was confirmed by virus isolation in nine cases and by serological study in one case.

Previous to that time, through assignment of staff and arrangement with the U.S. Public Health Research Laboratory at Hamilton, polio virus work was done there by the State Board of Health.

Venereal Disease

Although venereal disease is not the major disease problem in Montana, the graph above indicates it is still significant.

During the last ten-year period the incidence of both these diseases has continued to decline in Montana as well as in the nation. This decline is particularly striking with reference to primary, secondary and early latent syphilis in which the national average for 1957 was 3.8 per hundred thousand population. Montana, always somewhat below the nation, reported an incidence of 1.6 cases of early syphilis for 1957.

To improve V.D. control, the State Board of Health in cooperation with the U.S. Public Health Service, established a special V.D. control project in late 1957.

The control of V.D. is dependent primarily on early diagnosis, effective treatment and the locating, and bringing to treatment, contacts of each and every case. In this State the diagnosis and treatment of V.D. is usually done by the private physicians while the public health nurses, in cooperation with these physicians do contact tracing and investigations. This results in getting an increased number of contacts to the physicians

This special project is concerned with (1) continued improvement in physician reporting and in making the reports complete; (2) improved contact tracing; (4) professional and public education and (4) continued laboratory services.

An established system for the exchange of V.D. information among the professional personnel has been put into operation making possible the systematic tracing of V.D. contacts and the improvement of physician reporting.

A public health nurse has been added to the staff to assist in the professional supervision of the case register and to give direct service in counties where there is no public health nursing service. An increased amount of public health nursing consultant service has been made possible due to the reorganization of staff responsibilities.

Statistical tabulation shows the local public health nursing visits in the first six months of the project have equalled the number of visits made during each of the two previous calendar years That is 86 public health nursing visits were made in the first six months of the project as compared with 78 in 1956 and 89 in 1957.

V.D. Area Nursing Conference held in Billings.

Professional education in V.D. has included: a medical lecture series for the eleven district medical societies; in-service training for State staff involved in the control program; local health department staff and public health nurses from key areas; four area nursing conferences in various parts of the State.

An exhiibt on the importance of V.D. reporting was prepared and displayed at the Montana Medical Association State meeting in 1957.

Cancer

Cancer **is very significant in Montana's disease picture.** The second leading cause of death in the State is cancer.

In 1957 there were 873 deaths from cancer, for a cancer death rate of 128.8 per 100,000 population. Only heart disease claims more deaths each year in Montana.

Despite shortages of staff, a cancer register, based on confidential reports from physicians, has been maintained by the State Board of Health for the past 12 years. During this biennium, each reported case was recorded on IBM cards for ease in tabulation and analysis.

The greatest handicap to date in the maintenance of the register has been an underreporting of cases by the private physicians In 1957, the poorest reporting year, only 963 cases were added to the register, of which 873 first came to the attention of the State Board of Health on the death certificate. Despite this obvious handicap, the register now contains information on more than 15,000 cases of cancer in the State.

In 1957, a preliminary tabulation of the first 10,000 cases reported to the register was carried out. At the present time plans are being made for an analysis of the first 15,000 cases reported. Since a considerable percentage of these cases were reported for the first time at death, certain types of analysis will be impossible. Reported incidence by counties, occupation, site, etc., will, however, provide useful information to both official and unofficial agencies concerned with this problem.

In cooperation with the Cancer Committee of the Montana Medical Association, special efforts are underway to improve the cancer register in order to:

1. Provide more complete information concerning the epidemiology of cancer in Montana
2. Make information available for evaluating progress in the treatment of this disease
3. Improve follow-up services and their evaluation. In September 1956 the Cancer Committee of the Montana Medical Association approved the use of public health nurses in the follow-up of Cancer patients no longer under medical surveillance, at the request of or with the approval of the private physician.

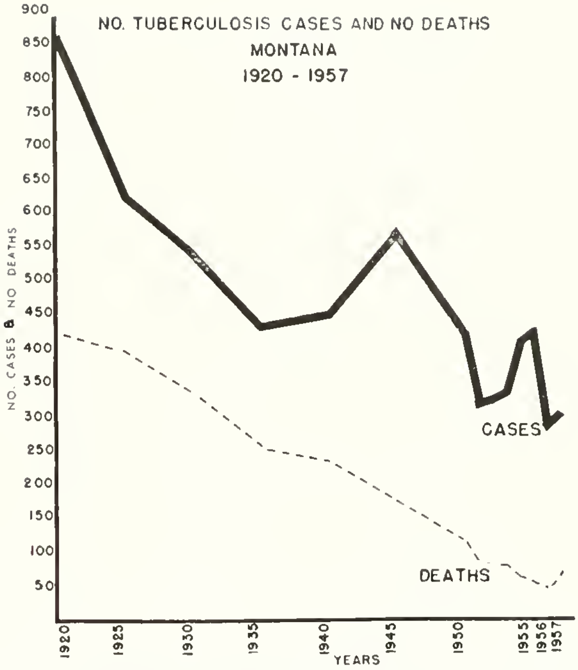
Identifiable data is, of course, strictly confidential and is released only to the attending physician.

In cancer education, during the biennium, the Montana Division of the American Cancer Society, the State Board of Health, and the Montana Medical Association sponsored medical refresher courses in Cancer Diagnosis. Lectures were held in eleven centers of the State.

Cancer Education Seminars, for selected high school teachers, were held in five areas of the State: Bozeman, Glasgow, Havre, Great Falls and Lewistown. This was a jointly sponsored program of the Montana Division of the American Cancer Society, the State Department of Public Instruction and the State Board of Health.

Tuberculosis

Of the communicable diseases, tuberculosis continues to be the principal cause of death and disability in Montana.



The tuberculosis problem is largely centered in those counties with large Indian or mining populations. This was pin-pointed by the 1952-55 State-wide chest x-ray survey program.

The highest rate of tuberculosis by occupation, (other than the unclassified group of workers), as revealed by this survey, is among the group working in personal services such as those preparing and serving food, barkeeps, etc. Miners, quarry workers or oil workers had the second highest rates.

Jail inmates, alcoholics, transients and inmates of homes for the aged, also characteristically have high rates of tuberculosis.

To meet the problem, several steps have been taken to strengthen the existing tuberculosis control program. Among them are:

Stabilization of medical directorship of the disease control program.

Education in the Cancer Control Program was the subject discussed by physicians, public health personnel, educators and Cancer Society representatives in five centers in the State.

Assignment of public health nursing consultant services to provide continuity of case supervision at the State level.

Improvement of public health nursing service in tuberculosis control. This was done during this biennium through the already existing in-service training program, and, in addition, educational programs were held each year for public health and hospital nurses in cooperation with the Montana Tuberculosis Association. Small conferences for public health nursing staffs have also been held.

The case register record system has been reviewed and revised, and the procedures have been simplified. This includes exchange of information between private physicians, public health services and the State Sanatorium.

The establishment of improved policies between the State Board of Health and other State and local agencies is underway. Work on this has been started between the State Board of Health, the Sanatorium, the U.S.P.H.S. Division of Indian Health, and the four full-time health departments.

Local registers have either been established or are being established in counties where there are local public health services

IBM tabulation has been initiated to make statistical information more readily available.

Plans are underway in the development of a cooperative plan with the U.S.P.H.S. Division of Indian Health for either an annual or semi-annual x-raying of the Indian population on the reservations.

In order to improve the tuberculosis control program, ways and means must further be found to:

Intensify the service already underway.

Find cases earlier and bring about immediate isolation to prevent the further spread of the disease. Over 50% of the cases admitted to the case register during the five-year period (1953-1957) were either moderately advanced or far advanced on admission.

Keep the tuberculous patients, who are hospitalized, in the hospital until they are ready for medical discharge. During the period from January 1 to May 1, 1958, the State Tuberculosis Hospital reported 182 patients discharged. Of these 17% were against medical advice. 33% of all Indian patients discharged during this period were against medical advice. These patients are not receiving maximum benefit. In addition to more education, strict controls will have to be used in some instances.

Improved community understanding of the problem and improved community education are essential. The educational program must be adapted to the particular level of understanding of the various groups.

Procedures in high incidence areas need to be adjusted to fit specific problems and services must be concentrated in these areas.

Increased local public health services are necessary. The establishment of full-time health departments and the employment of more public health nurses, not only in the counties without them, but also an improvement of the ratio of public health nurses to the population served.

From the map on page 26 it will be noted that in no area is there even a minimum number of public health nurses (one P.H.N. to 3,000 population) to carry on a generalized program, of which tuberculosis is one of the very important programs.

However, in Public Health District I (Big Horn and Rosebud Counties) where the highest ratio of public health nurses to population is found, there were only 16 reported cases of tuberculosis in 1957. In the rest of the State where the public health nursing coverage is either non-existent or where the ratio of nurses to population is too low to expect a good case-finding program, there were 267 reported cases. In fact, two of these counties where the ratio of public health nurses to population is one to more than 20,000 population, there were 80 cases of diagnosed tuberculosis.

During 1957 there were 777 nursing visits made to diagnosed cases and 1,791 visits to contacts and suspects. If nursing services were adequate in the State these figures would be increased dramatically. It could well be expected, that the visits to contacts and suspects would be increased as much as five times.

Tuberculosis is an insidious disease, that is, its effect is much more serious than is readily apparent. Its very lack of abruptness in onset constitutes, perhaps, the greatest obstacle to effective control. Consequently each case must be meticulously followed and each known contact viewed with a high degree of suspicion. The objective therefore of the practicing physicians and the public health nurses is to bring each case to medical care before the family and other contacts become infected.

Medical Refresher Courses were provided through the cooperation of the Montana Medical Association, the Montana Tuberculosis Association, and the State Board of Health. They were held in eleven areas of the State.

The preparation of a series of 35 mm colored slides for use in depicting life at the State Sanatorium at Galen has been started. When completed, early in the biennium, the slides will be available on loan. These slides are primarily for public health staff use with patients who are in need of sanatorium care, or with families of these patients. They will also be used in familiarizing citizens with this State resource. They were prepared in cooperation with the Galen staff.

Heart Disease

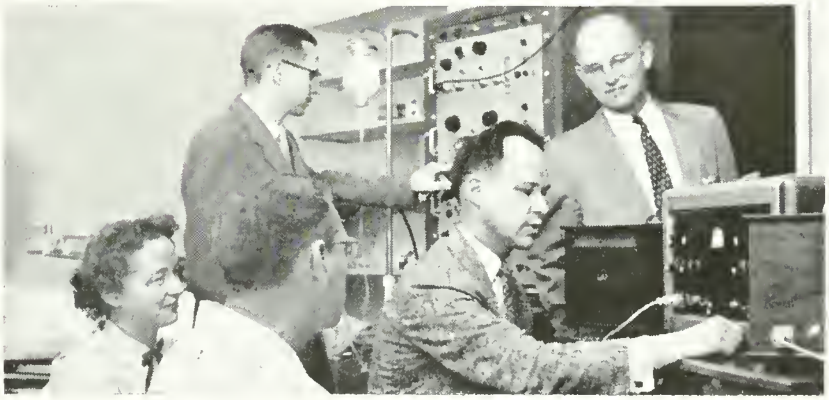
Heart disease continues as Montana's number one cause of death, and one of its principle causes of disability.

The program of principle interest in this field is that related to the establishment of the Rheumatic Fever and Heart Diagnostic Center in Great Falls. This Center, established by the State Board of Health in 1956, is an extension of the Board's Rheumatic Fever Diagnostic Center established in 1949, and was developed with the assistance of the rheumatic fever and heart disease committee of the Montana Medical Association and the Montana Heart Association.

The purpose of the Center is to serve all Montana physicians on a diagnostic and consultive basis. It grew out of the specialized needs of rheumatic and congenital heart disease patients under the care of private physicians, in addition to those eligible for care under the Board's Crippled Children's program. Its establishment permits for the first time, the handling of the most difficult diagnostic-cardiac problems, (especially as they relate to heart surgery) within the State.

All patients are referred to the Center by a Montana physician who receives a complete report on each patient. The patients are then seen at the Board's Rheumatic Fever and Heart Diagnostic Clinic which is housed in the City-County Health Department in Great Falls. Routine studies are made there which include a careful history, physical examination, electrocardiogram, complete laboratory blood work, fluoroscopic examination and nurse interviewing. When more exhaustive studies are needed, the patients are taken to the Heart Center at the Hospital where they are studied by a team of medical specialists, known as the heart diagnostic team.

The procedures being conducted at the Hospital Center consist of: (1) cardiac catheterization, and (2) angiocardiography.



Heart Diagnostic Center Equipment.

Cardiac catheterization gives the physicians three types of information: defects in the heart structure, degree of pressures in heart chambers, and the oxygen content of the blood in each chamber of the heart.

Angiocardiography makes it possible to detect, by x-ray procedures, faulty operation of heart valves: widening, narrowing or any deviation of the system. To do this an opaque material or dye is injected into the vein of the patient and x-ray pictures are taken in rapid sequence. This films the course of the material as it passes through the various chambers of the heart.

These procedures usually make it possible for the physicians to determine the exact type of defect in the patient's heart, and thus, if so indicated, the corrective surgery that can be recommended. The patient and his own physician determine how, when and where to follow the recommendations, as in any other type of consultation service.

A public health nurse was added to the Center's staff in August 1957.

RHEUMATIC FEVER AND HEART DIAGNOSTIC CENTER CASE LOAD
1956 - 1958

	July '56-June '57	July '57-June '58	Total
Total cases seen	133	188	321
Clinic visits	153	266	419
New cases	59	113	172
Consultation only	7	104	111
Cardiac Catheterizations	0	34	34
Cardioangiograms	0	5	5

DIAGNOSIS TOTAL CASE LOAD
July 1957 - June 1958

Normal	26
Congenital Heart Disease	89
Rheumatic Fever	33
Functional murmur	11
Diagnosis reserved	13
TOTAL	188

In cooperation with the Montana Heart Association, and the Montana Medical Association, the State Board of Health presented a series of eleven lectures to the local Montana Medical Societies.

The State Board of Health was one of the agencies who participated in a "Work Simplification Conference for Cardiacs" sponsored by the Montana Heart Association and the State University at Missoula. Following this a local conference was held in Cascade County.

The purpose of the Conference was to train leaders who upon returning to their communities would develop local conferences for the cardiac homemakers in their own communities.

Industrial Hygiene

The industrial hygiene program completed its fourth year of operation since its reorganization and reactivation. The program continued to emphasize the identification and measurement of industrial hazards and the formulation of recommendations to industry for their elimination.

At the end of this biennium nearly all of the major industries of the State had been studied, and recommendations were made for the correction of those conditions which were occupational disease hazards.

As a rule, the study of an individual plant required only a few days, although some studies required weeks and a few required up to 2-5 months.

A total of 131 plants and mines were studied between July 1, 1956 and June 30, 1958. These plants cover an industrial population of 9,763 workers.

The following tabulation gives an indication of the type of tests carried out:

Samples collected for identification and measurement	1,082
Performance tests on ventilation equipment	186
Temperature and relative humidity measurements	68
Illumination measurements	18
TOTAL	1,354

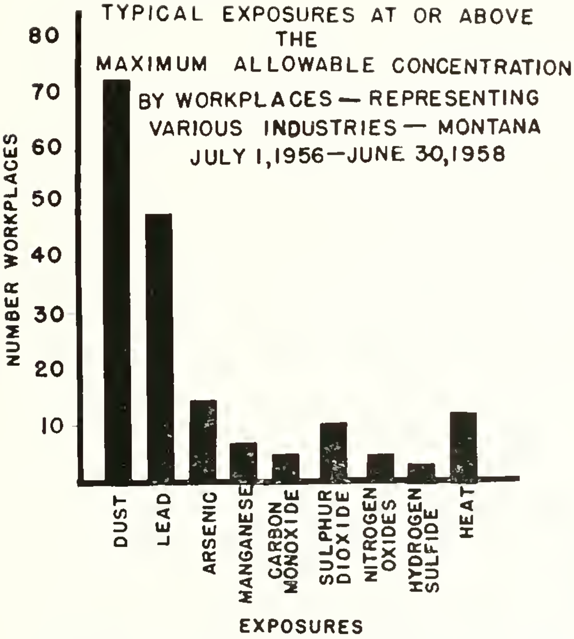
337 specific recommendations were formulated and forwarded to industry for attention.

Good laboratory procedure in analyzing samples requires that fumes be removed by exhaust fans through hoods and air ducts.

Progress in industry has been very satisfactory during this period and management in some plants has placed considerable emphasis on the routine collection of biological samples for analysis, pre-employment physical examinations and periodical physical examinations as indicated.

During the following two years all of the industries thus far included in the surveys will be re-studied and a determination made as to compliance with prior recommendations.

The following tabulation indicates an estimate of the number of work places exposed to various compounds which have been found over the safe level.



This tabulation is compiled from many industries and is not specific for any one particular industry or location.

Occupational disease reporting by physicians and others during this period continued to be poor, although occupational diseases are reportable by law.

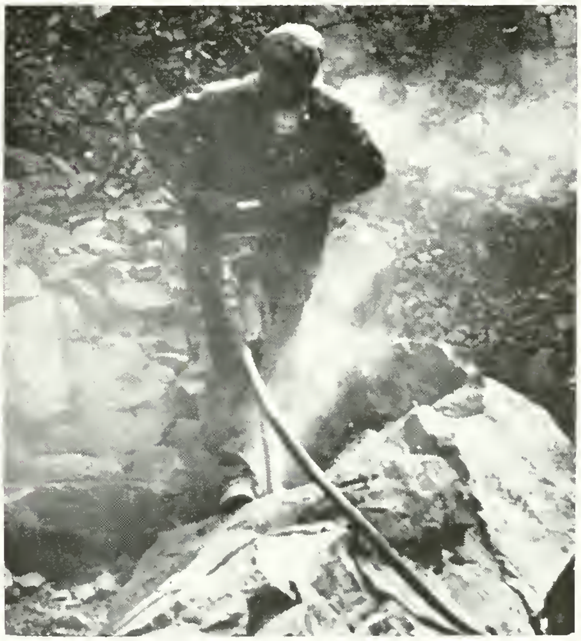
During this biennium, radiological health was added to the activities of the industrial hygiene program and all isotope user activities in the State were reviewed with a representative of the Atomic Energy Commission. Industrial radiation processes have also been reviewed and generally found to be satisfactory. Work was planned for the future on the registering of x-ray and fluoroscopic machines and the formulation of standards for their maintenance and operation.

In November 1957, the Board "prohibited the installation or use of x-ray shoe fitting devices". This action was taken as a protective measure. Although the use of these devices is no problem now the action was taken to prevent the possible influx of these devices from States where they cannot be used.

Nuclear radiation is increasing the radiation hazards in this country and therefore it becomes necessary that the need for all x-ray procedures be carefully determined. The use of x-ray for shoe-fitting is not essential and should therefore not be used.

Cooperation with the U.S. Public Health Service and the Atomic Energy Commission in the collection of radiation fall out samples has also been initiated and will continue for as long as the program is necessary.

Also during the past two years, air pollution background studies have been made in all of the major cities of the State with emphasis placed on the collection of benzene soluble material and certain other material which by virtue of industrial activity in a given region might be a hazard to the over-all health of nearby communities. These samples will be continued in accordance with procedures developed by the U.S.P.H.S. and other official agencies so that continuing comparison can be made as further information is developed.



An Industrial Health Hazard is created when drilling with a pick hammer in a quarry is done without using water to allay the dust.

Environmental Sanitation

Stream Pollution and Sewage Disposal

CURRENT STATUS OF SEWAGE TREATMENT FACILITIES IN MONTANA'S 126 SEWERED COMMUNITIES,

Serving a Population of 334,174.

	Number	Population (1950 Census)	
Communities with **adequate** treatment	52	138,628	
Communities with **inadequate** treatment	74	195,546	
Treatment under construction	6		12,810
Planning for construction under way	26		134,531
Planning not started	42		48,205

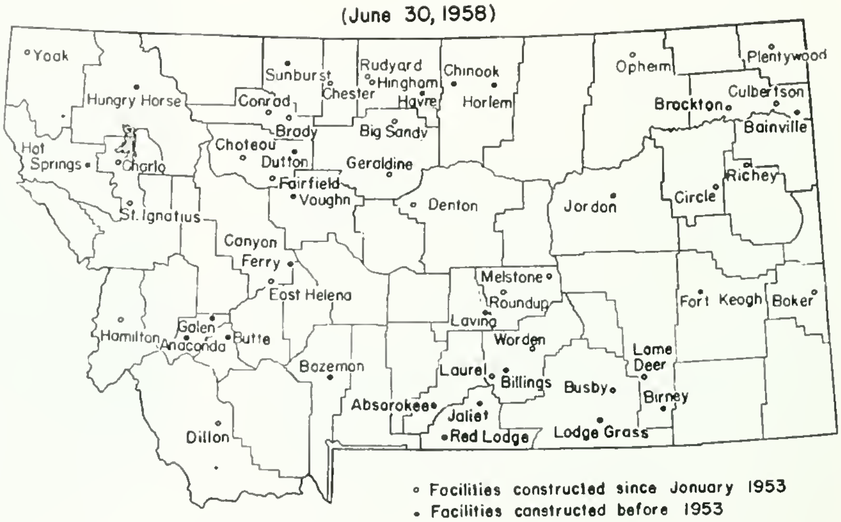
In May 1952 the State Board of Health adopted a Sewage Disposal Policy which stated that "primary treatment of all wastes before discharge into any water course within the State of Montana will be required." By July 1, 1957 communities and industries were required to submit plans which would correct the situation. With these plans the date for the completion of the proposed sewage disposal project was to be included. Exceptions to this policy were to be made where (1) it was determined by the State Board of Health that the nature of the receiving body of water was such that the addition of untreated wastes would not adversely affect the health of humans, and (2) additional treatment would be required as determined by the size, usage and character of the receiving body of water and the volume and strength of wastes to be treated. The communities were advised of this policy. The map and chart show the status at the close of the biennium.

Twenty-eight of the new plants are lagoons, 3 are Imhoff tanks and one is a primary treatment plant. The use of the sewage lagoons, particularly in the smaller communities, has made it possible to construct proper sewage treatment facilities much less expensive than was possible before.

In the past two years a total of $750,000 has been spent for the construction of sewage treatment facilities in Montana. A proposed $6,000,000 will be spent in the next two years for adequate facilities. Federal funds have been supplied to 21 municipalities in the State to assist in construction of sewage treatment plants under Federal law. Under this law the U.S. Public Health Service can contribute up to 30% of the cost of the municipal sewage treatment facilities not to exceed $250,000. Municipalities must bear the remainder of the cost.

52 Communities in the State have adequate sewage treatment facilities. 32 of these were constructed in the last five years.

(June 30, 1958)



○ Facilities constructed since January 1953

• Facilities constructed before 1953

Chemical water analysis done in the field.

Sorting Stream bottom organisms

Studies of the Missouri, Yellowstone, Clark Fork and Kootenai Rivers are being carried on. Information obtained from these studies and data on file in the State Board of Health is used by the Montana Water Pollution Council in its work in classifying streams. This data is used to determine the amount of pollution now present and in the future it will be used for the purpose of determining whether or not the amount of pollution is increasing or decreasing.

To carry out these studies the Montana State Board of Health staff has been implemented by the service of a stream biologist provided by the Montana Fish and Game Commission. The Board has also employed a summer team during the 1957 and 1958 summers to work on these studies.

The State Board of Health is the administrative agency for the Montana Pollution Council. This Council was authorized by the 1955 legislature for the purpose of formulating standards of water purity and quality. It was also authorized to classify waters in Montana according to their most beneficial uses.

The Council held a public hearing, near the close of the biennium on the Yellowstone River and one will be held early in the next biennium on the Columbia River drainage in Montana. Classification is made by the Council after the public hearings.

A stepped-up plan for continuing the study and management of the prevention of "tastes and odors" in the Yellowstone will be inaugurated early in the next biennium. The stepped-up plan provides for (1) the establishment of a river monitoring system and (2) the establishment of more stringent control of operating measures.

Water Supplies

Considerable progress has been made in new construction and improvement of municipal water supply plants in Montana as shown below:

New Water Plants Constructed

Flaxville, Lockwood, Hingham, Jordan. The Lewis & Clark Caverns plant was re-built.

New Water Sources

Bozeman, Helena, Philipsburg, and 10 others added new wells.

New Intake Structure

Havre

New Filtration Plants

Laurel and one under construction in Helena.

New chemical building for filtration plant

Billings.

Filtration plant improvements

Conrad, Great Falls, Chinook.

Prechlorination Instituted

Fort Benton (operations also improved).

Fluoridation equipment installed

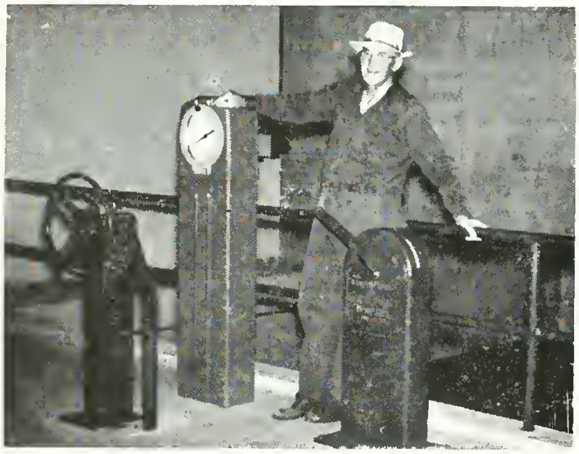
Laurel.

Additional Water Storage Provided

Troy, Bozeman, Chinook, Havre, Kalispell, Kevin, Hysham, Great Falls and Manhattan.

Booster Stations Provided

Great Falls, Kalispell, Bozeman.



Filter Room in Laurel Filtration Plant.

Plans were reviewed for 101 water plant improvements, ranging from short water main extensions to complete multi-phase water improvements.

The number of public water supplies inspected has increased from 155 at the close of the last biennium to 164 at the close of this biennium.

Semi-public water supply inspection started

In May 1957, the State Board of Health directed the staff to inspect all semi-public water supplies for motels, food and drink establishments. "Semi-public" water supplies are those which "serve the public" but which are not obtained from the already inspected municipal water supplies.

This action was taken by the Board in an effort to control or prevent the occurrence of water-borne diseases, such as the acute diarrheal diseases which have been reported in many areas of the State in the last few years. A special program was initiated in Flathead County and in the Glacier Park area, with assistance from the State Board of Health staff.

Subsequent licensing of all these establishments will require provision for safe water. As the water supplies are cleared up it will be possible to improve the other sanitary facilities which could contribute to water-borne disease.

Work by the staff, in cooperation with the Montana Highway Department, will be carried on to improve the quality of the waters at the highway springs. These springs have been piped for the convenience of travelers.

A program was started during the biennium to measure the amount of radio-activity in Montana streams. The few samples tested to date indicate the amount to be well below the level harmful to humans. Should there be an increase in the future it will be possible to determine how much is from fall-out or other activities as compared with that which naturally occurs.

Swimming Pools

Six new swimming pools have been constructed during the last biennium. Fourteen sets of plans for various improvements and the new pools were reviewed.

Monthly swimming pool operating reports are submitted to the State Board of Health. These reports indicate the treatment, water usage, number of bathers, as well as additional pertinent data.

New swimming pool regulations are being prepared for adoption by the Board which is anticipated early in the next biennium.

INSPECTIONS

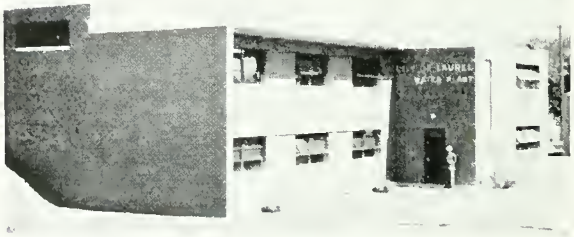
July 1, 1956 to June 30, 1958

	Number
Inspections of Public Water Supplies	328
Inspections of Private Water Supplies	25
Inspections of Sewage Disposal Systems (Public)	193
Inspections of Swimming Pools	14
Miscellaneous Inspections	55
	615

WATER SAMPLES TESTED

July 1, 1956 to June 30, 1958

	Bacteriological	Chemical	Total
Public Water Supplies	12,627	482	13,109
Private Water Supplies	2,722	216	2,938
School Water Supplies	365		365
Tourist Court Water Supplies	506		506
U.S. Government Water Supplies	521		521
Miscellaneous Sources	424	288	712
Totals	17,165	986	18,151



Laurel Water Plant Completed in 1957.

Plans for 261 school buildings were reviewed and studied to determine that minimum standards for heat, light, plumbing and ventilation have been met. The length of time required to do this varies from a few hours to as long as one person's time for two weeks.

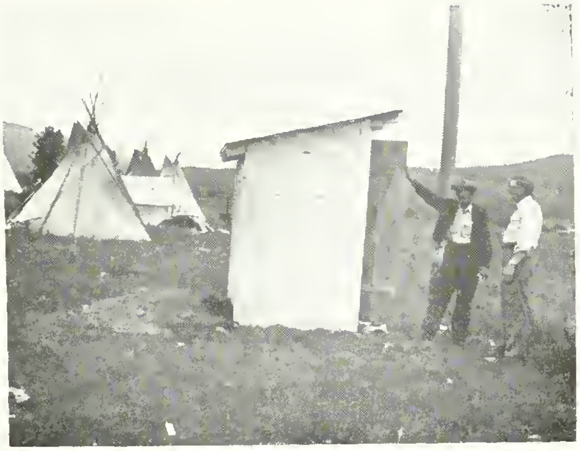
The State Board of Health adopted a revision of Regulation 91 pertaining to the construction of schools.

Community Sanitation

Consultation, assistance with educational programs, and restaurant surveys are provided to the 17 sanitarians working in 18 counties in the State. These sanitarians work in counties which serve about 60% of the State's population. The purpose of their work is to improve the sanitation of eating and drinking establishments, motels and trailer courts, school buildings, private water supplies and private sewage disposal. Most of them also do milk sanitation work for the Livestock Sanitary Board.

The State Board of Health, on request from the local health officer, conducts basic rating surveys on food serving establishments to improve sanitation. These surveys are made to assist in determining the current status of sanitation practices which serves as a base line for information. They are also used as a guide for improvement and for noting progress. Since March 1957 surveys have been conducted in 15 cities and/or counties. The findings have rated from a low of 48 to a high of 73.37 out of a possible total score of 100.

Assistance from the state staff has been given to local health officers and sanitarians in conducting meetings for food-service operators and their personnel. 75 two-hour sessions were held with 989 persons attending in 9 cities and/or counties. These educational sessions familiarize the operators and workers with the basic practices that should be carried out to prevent the transmission of disease through eating and drinking establishments.

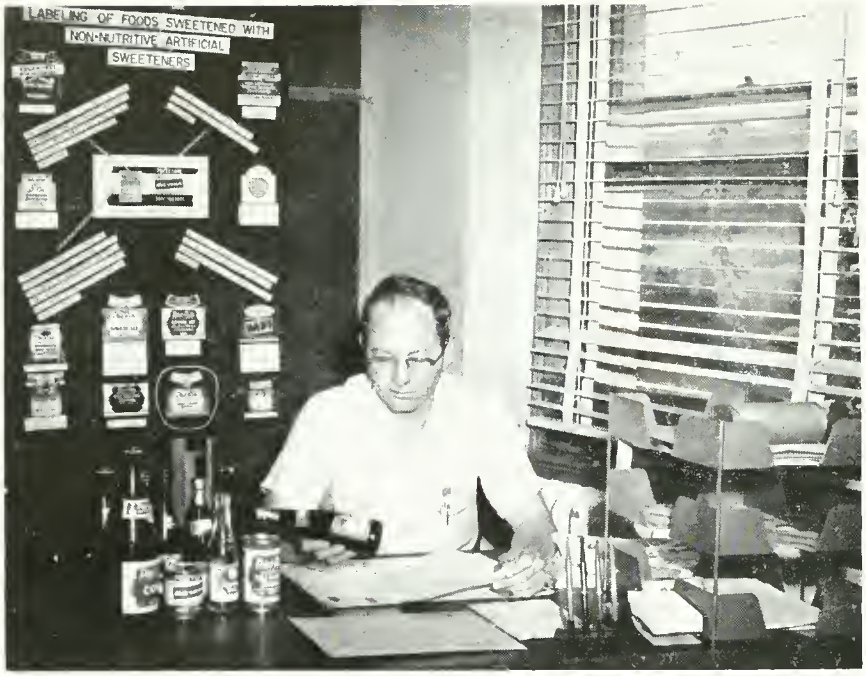


Temporary privy at Indian celebration inspected by sanitarian.

New codes that have been adopted by the State Board of Health and dates of adoption are for:

1. Public Eating and Drinking Establishments, January 18, 1958
2. Food Vending Machines, January 18, 1958
3. Special Purpose Foods and Their Labeling, March 8, 1958
4. Trailer Courts, May 11, 1957
5. Bakeries and Confectioneries, July 27, 1957
6. Definitions and Standards for Bakery Products (Section 1-5) July 27, 1957 (Section 6) January 18, 1958.

Food Service Personnel Training.



Examining labels for food.

The staff cooperates with the Federal Food and Drug Administration when it is necessary to obtain samples of food that have been manufactured outside the State and shipped in.

The staff reviews the in-State manufacture of foods. This involves primarily bakeries, bottling plants, and meat markets that prepare their own ground meats.

Hamburger is tested to determine the amount of fat or other ingredients and the presence of adulterants. 288 meat samples were tested during the biennium and about half were found to have been adulterated with fat. This compares with 90 such samples tested last biennium.

General Education in the Community

The Sanitation Committee of the Great Falls Community Council was formed on May 15, 1957 and it has been very active. It is made up of representatives from 23 organizations or agencies having an interest or responsibility in sanitation.

This committee has five subcommittees on: local milk ordinance, sewage, garbage, food and drink sanitation, sub-standard housing. It has also had two special committees for specific studies and recommendations.

The committee has had assistance from the State Board of Health staff and has worked closely with the local health department staff. They have studied the various problems and out of these studies have made recommendations for improvement. Among groups to whom the recommendations of the committee have been made is the Great Falls City Council, which in November and December of 1957 adopted (a) a new ordinance regulating eating and drinking establishments and (b) a local milk ordinance.

The committee has studied the State Board of Health requirement for the construction of the City's sewage treatment plant and carried on an educational program. The committee recommended that a special bond election be held to finance construction of the sewage disposal plant.

Great Falls Sanitation Committee Chairman and subcommittee chairman discuss plans.

The activities of this committee were explained in the April 1958 issue of "The Health Officers' News Digest". This is a booklet published monthly by the Public Health Committee of the Paper Cup Container Institute, New York City. This publication has nation-wide circulation to public health workers.

Other health councils or community groups who have held meetings on sanitation are in Hill, Flathead, Phillips Counties and in Dodson.

In-Service Training

Two three-day conferences are held for the in-service training of Sanitarians each year. One is sponsored by the State Board of Health and the other is sponsored by the State Board of Health and the Montana State College.

A three-day school is held each year for those persons who operate water and sewage plants. This school is held at Montana State College.

Water and Sewage Problems In Areas Adjacent to Cities ("Fringe" Areas)

One of the serious unsolved sanitation problems in water and sewage disposal is in the "fringe" areas, that is the area just outside the city limits of the municipalities. Homes are being constructed in these areas where there is no provision for proper water supply nor sewage disposal.

The water supply for most of them comes from wells they have constructed. However, in some places the municipal water supply is available for these areas.

Sewage disposal is usually provided by the construction of septic tanks. These septic tanks are usually satisfactory for a period of time, depending upon the lot size, water table and the porosity of the soil. In many instances the liquid comes to the surface, sometimes it fills ditches and contaminates wells.

Neither the county commissioners, the local planning boards nor the State Board of Health have sufficient authority to control these developments until after a problem is created. Then the property owner either has to pay for sewage disposal twice or lose his investment

It is important that some steps be taken by the legislature to insure that proper water and sewage facilities are planned before land is subdivided whether the property is inside or outside the city limits.

Other Needs

Legislation is needed to strengthen and/or clarify existing legislation relating to hotels, motels and tourist camps.

Legislation already enacted relating to commercial insecticides and pesticides, mattresses and bedding cannot be carried out because no funds have been appropriated to do this. To carry out these requirements it would take more staff than the number of persons now employed to carry out all other requirements in the field of sanitation.

There is need for a state-wide plumbing code. Legislation and administration of the work done by the State Board of Plumbing Examiners needs clarification and change.

Steps should be taken now to provide for the prevention of air pollution before it becomes a problem in the State as it has in other parts of the country.

Hospital Facilities

Hospital and Medical Facilities Survey and Construction

The construction of hospitals and medical facilities has reached a new high with sixteen active projects underway. Of these, seven projects initiated in the previous biennium have been completed; four are nearing completion; four are in the early stages of construction and one in the final planning stages ready to call for bids. These projects represent a total expenditure of $10,354,000.00, having an estimated Federal share of $2,621,977.96. The summary of these projects is given in the table on page 66.

The accelerated construction program was due to increased Federal allotments to Montana in the hospital category and by growing interest in the Medical Facilities program by interested groups throughout the State. The Federal program will terminate June 30, 1959, unless extended by the Congress.

The State plan for Hospital and Medical Facilities was revised annually. The revisions were adopted by the Board on the advice of the Advisory Hospital Council, following a public hearing. The position of Hospital Construction Consultant was reactivated and filled.

Projects scheduled for construction, from applications of eligible sponsors, must be in accordance with the State plan. Preference is given to areas having the greatest unmet needs for facilities or services. Federal funds are granted on a matching base of 40%.

With the exception of $83,583.83 in Rehabilitation Facility funds (not transferable to any other category), projects were developed to utilize the money allocated to Montana, including anticipated allotments for the fiscal year ending June 30, 1959. The Rehabilitation Facility funds were lost because there was no eligible sponsor in Montana. Of this amount, $34,408 was transferred to Wyoming in June 1957 since this State could utilize it and filed a formal transfer request.

In return Wyoming agreed to make its single rehabilitation facility at Thermopolis available to Montanans.

The balance reverted to the Federal government on June 30, 1958.

For the first time, **scheduled medical facilities construction exceeded hospital construction.** (Details are included on the chart on p. 66.)

	Estimated Cost	Federal Share
Medical Facilities Projects	$5,698,952.71	$1,306,209.37
Hospital Construction	$4,655,328.42	$1,315,768.59

Federal Allotments Received by Montana were:

	1957	1958	Total
Medical Facilities	$300,000.00	$300,000.00	$ 600,000.00
Hospital Construction	$342,194.00	$353,850.00	$ 696,044.00
			$1,296,044.00

Payments made to sponsors are on the basis of completed work, services rendered, and equipment delivered to the site at the time inspections are made for payment. The payments made during any biennium may be from current and/or previous fiscal year allotments. **During the biennium the following payments were made:**

Medical Facilities: $295,654.87 and Hospital Construction: $462,496.19, making a total of $758,151.06

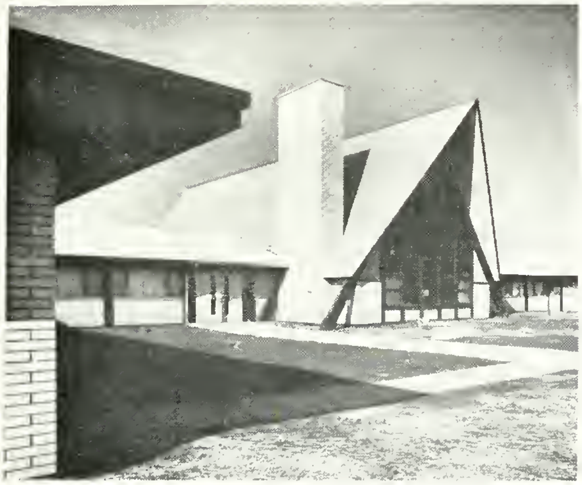
PROJECTS CURRENTLY SCHEDULED FOR CONSTRUCTION

Facility and Location	Kind of Facility and Number of Beds
State Laboratory, Helena* (additional work and remodeling for virus work)	
Hotel Dieu Hospital, Polson (replacement for 35 bed hospital)	40 general hospital beds, 8** of which are for Indian population Nurses' Home
St. Clare Hospital, Fort Benton (replacement)	19 general hospital beds and 16 nursing home beds
Big Horn Community Hospital, Hardin (replacement)	14 general hospital beds 10 nursing home beds
St. John's Hospital, Libby (addition and remodeling)	4 general hospital beds, elevator service, storage, new kitchen and staff dining room
Toole County Hospital, Shelby (addition)	34 nursing home beds added to hospital
Liberty County Hospital, Chester (addition)	10 nursing home beds added to hospital
Silver Bow County Hospital, Butte* (new)	28 general hospital beds*** 114 chronic disease hospital beds
Cascade County Convalescent Hospital Great Falls (new)* (in final planning stages)	Public Health Center 80 chronic disease hospital beds 40 nursing home beds 94 domiciliary care facilities***

* Federal participation in portion of project only.

** Financing of 8 beds for Indian population, anticipated from Indian Health Funds, under Pub. Law 85-151, no Federal Hill-Burton funds involved.

*** Financed with local funds, no Federal funds involved.



Outside view, Immanuel Lutheran Home, Kalispell.

Interior view of dining room, and lounge, Immanuel Lutheran Home, Kalispell

The completion and opening of the Immanuel Lutheran Home at Kalispell on August 20, 1957, marked the beginning of a new era in modern facilities for the accommodation of convalescents or other persons who are not acutely ill, and not in need of hospital care, but who do require skilled nursing care and related medical services.

Some of the principal speakers at one of the Rehabilitation Conferences.

The addition to the St. Vincent's Hospital at Billings, nearing completion, will contain some multi-disability rehabilitation facilities and services. This will be the only facility in the State to assist in the rehabilitation of disabled persons through an integrated program of medical, psychological, social, and vocational evaluation and services on an in-patient and out-patient basis. Facilities for out-patient rehabilitation services are under construction in Great Falls by a private Agency without Federal aid.

The Silver Bow County General and Chronic Disease Hospital under construction at Butte and the proposed Cascade County Convalescent Hospital at Great Falls will bring Montana its first chronic disease hospitals. These new beds will be for the treatment of chronic illness, including the degenerative diseases, and in which treatment and care will be administered by or under the direction of persons licensed to practice medicine or surgery in the State. Thus progress is being made in providing facilities and services for the increasing number of the aged, the rehabilitation of the disabled, and for persons suffering from long-term illness.

The State Board of Health has been cooperating with the communities of Poplar, Wolf Point, and Polson, the U.S. Public Health Service and the Montana Congressional Delegation in an effort to obtain Federal legislation together with financial assistance to allow for the construction of community hospitals to serve Indians and non-Indians.

This effort was successful. Federal funds for Indian hospital beds can now be used with funds for public and other non-profit hospitals to build community hospitals and diagnostic treatment centers to serve both Indians and non-Indians.

Rehabilitation Facility Planning

The State Board of Health called a conference to discuss Rehabilitation plans for the State of Montana in January 1957.

This conference was called upon the recommendation of the Montana Health Planning Council and the Hospital Advisory Council.

The Council has long been interested in the programs of the various agencies and organizations which provide, purchase or need services for the handicapped.

The Advisory Hospital Council and the State Board of Health having responsibilities concerned with the utilization of the Federal funds under the Medical Facilities Survey and Construction Act, were concerned with: (1) how Montana can best use these funds for immediate and long-range needs in providing rehabilitation services and (2) how can sufficient funds be secured, whether public or private to match the Federal funds.

The first conference did not develop a plan but it did recommend that a second conference be held, which was done in April of the same year. At this second conference a recommendation was again made that another conference be called. This third conference was held on January 16 and 17, 1958. At this time a State Rehabilitation Association was formed. Approximately 75-100 persons attended each of these conferences.

Although no specific recommendations were made to the two questions before the Advisory Hospital Council and the State Board of Health, the conferences did provide an opportunity for the exchange of much information. They also provided an opportunity to clarify the needs for a good and comprehensive rehabilitation program for Montana.

The Board, with the recommendation of the Advisory Hospital Council had to adopt a plan for the period. This plan was for the utilization of the Federal Construction funds and had to be within the framework of Federal requirements which are:

- Not more than one complete rehabilitation facility for each 300,000 population.
- The plan must be within the needs of the State
- Adequate funds available for the operation of the completed facility.

The Board, upon the advice of the Advisory Hospital Council, adopted the following policy for use of Federal rehabilitation facility funds: "that one principal rehabilitation center rendering comprehensive evaluation and service for multi-disabilities for both in-patients and out-patients be constructed in one of the larger urban centers. Several lesser centers, including in-patient and out-patient services of the multi-disability type, but serving less severe cases, should be located in the State (in connection with an existing hospital) as satellite facilities —that applications for these centers will be considered (by the State Board of Health) from the communities of: Billings, Butte, Great Falls, Havre, Helena, Kalispell, Miles City or Missoula." This is dependent upon need and ability to finance.

Licensure of Hospitals And Homes for the Aged

At the close of the biennium there were 67 general hospitals with 3,668 beds licensed by the State Board of Health. In addition one tuberculosis hospital with 285 beds, and one mental hospital with 1,580 beds and 8 convalescent homes with 398 beds are also licensed. At this time there are 95 licensed boarding and or nursing homes for the aged with 1,604 beds.

The hospital facilities consultant position has been restored to full-time from half-time to make inspections for the licensure of these facilities, and to advise and encourage needed improvements.

The consultant also gathers statistical data and other information for use in improving the programs.

All the hospitals of 50 beds or more have either received accreditation by the Joint Commission on Hospital Accreditation or are working toward such accreditation. Hospitals are not only trying to meet standards, but are trying to go beyond minimum requirements.

Specialized services such as radiology and pathology are now available in the larger hospitals. Many of the smaller hospitals are also obtaining specialized services on a consultive basis. Improvement is noted in the physical planning in the number of trained personnel. Standby power plants for operating and obstetrical rooms and halls are either available now or will be by 1959.

Hospital associations and administrators are showing a keen interest in providing better facilities and trained personnel to improve patient care.

Hospital standards were revised during the biennium. This revision related to the length of time hospital records must be kept. Hospital records are improving.

Nursing homes in the State are providing more training for personnel so that the type of care can be improved. There is a trend toward fire-resistant facilities which are greatly needed. There is an evident improvement in the type of records the nursing homes are keeping.

As a whole the nursing home operators are becoming aware of their responsibilities to the patients, the families of the patients and the communities. They know the facilities must be improved. They know that there must be an understanding of the needs of the patients and that they must try to meet these needs. Patient care is improving although there is still a great deal of need.

SUMMARY OF PROJECT CONSTRUCTION SCHEDULES
JUNE 30, 1958

Project	Location	No. of Beds	Total Estimated Cost	Estimated Federal Share	STATUS
I. HOSPITAL FACILITIES					
State Laboratory Building	Helena		$ 1,230,163.89	$ 152,323.60*	Approx 98% completed
St. John's Hospital	Helena		288,506.59	115,402.64	Approx. 97% completed
Teton Memorial Hospital	Choteau	3	23,614.72	9,445.89	Completed
St. Peter's Hospital	Helena	23	338,935.40	135,430.16	Completed
Dahl Memorial Hospital	Ekalaka	16	215,075.40	84,001.44	Completed
Hotel Dieu Hospital	Polson	40	605,910.67	242,364.27	Contracts awarded 6/14/58
St. Clare Hospital	Fort Benton	19	288,792.95	115,517.18	Contracts awarded 6/20/58
Big Horn County Memorial Hospital	Hardin	14	259,159.12	103,663.65	Contracts awarded 6/20/58
St. John's Lutheran Hospital	Libby	4	73,531.39	29,119.76	Completed
Cascade County Conv. Hospital	Great Falls	80	1,331,638.39	328,500.00*	Final Dwgs. & Spec. Completed
TOTAL			$ 4,655,328.52	$ 1,315,768.59	
II. MEDICAL FACILITIES					
Immanuel Lutheran Home	Kalispell	70	$ 496,278.95	$ 198,511.58	Completed
Rosebud County Nursing Home	Forsyth	16	199,247.57	71,597.38*	Completed
St. Vincent's Hospital	Billings	13	1,038,352.01	234,726.74*	Approx. 90% completed
Toole County Hospital	Shelby	34	328,130.12	130,892.92	Approx. 80% completed
Liberty County Hospital	Chester	10	132,402.92	52,961.17	Completed
Silver Bow County General and Chronic Disease Hospital	Butte	114	2,241,693.44	398,795.20*	Contracts awarded 1/9/58
St. Clare Hospital	Fort Benton	16	178,887.93	71,555.17	Contracts awarded 6/20/58
Big Horn County Memorial Hospital	Hardin	10	89,173.03	35,669.21	Contracts awarded 6/20/58
Cascade County Conv. Hospital	Great Falls	40**	994,786.74	111,500.00*	Final Dwgs. & Spec. Completed
TOTAL			$ 5,698,952.71	$ 1,306,209.37	

* Participation in portion of project only.

** Project also includes 94 beds for domiciliary care only.

PART III. FINANCIAL TABLES

Montana State Board of Health
Total Expenditures and Encumbrances
Fiscal Years, 1953-1958

	1953	1954	1955	1956	1957	1958
ADMINISTRATION	(107,865.18)	(91,009.34)	(103,188.14)	(128,244.94)	(136,826.40)	(137,589.38)
General	73,963.68	65,717.64	68,890.50	89,577.54	91,088.03	83,914.18
Vital Statistics	18,958.68	18,842.06	19,532.62	26,570.74	28,453.08	36,178.01
Merit System	7,308.24	6,449.64	6,828.30	7,579.25	7,520.10	8,024.17
Training	7,634.58	[2]	7,936.72	4,517 41	9,765.19	9,473.02
DISEASE CONTROL	(99,255.34)	(96,488.64)	(111,420.32)	(193,338.91)	(151,469.99)	(89,511.53)
General	28,799.27	16,514.39	21,364.73	59,295.28	58,427.91	71,598.87
Polio Vaccine Distribution and Use				123,402.10	75,086.82	
Chest X-Ray Survey	69,381.32	79,598.22	89,729.07	9,759.89	6,006.31	
Drugs and Biologics	1,074.75	376.03	326.52	881.64	5,565.00	—652.32[3]
Heart Diagnostic Center[1]					6,383.95	14,630.35
Venereal Disease						3,934 63
CHILD HEALTH SERVICES	(182,816.84)	(199,750.42)	(205,672.61)	(243,381.41)	(245,828.89)	(270,029.39)
Maternal & Child Health	31,269.76	34,372.47	34,988.49	48,975.69	46,454.50	42,878.97
Crippled Children	24,826.43	25,015.91	23,641.43	45,486.84	27,467.91	31,683.64
Clinics & Auxiliary Services	38,833.16	33,281.35	28,659.93	38,181.95	37,115.98	44,732.26
Hospitalization	47,254.16	66,677.37	70,619.20	61,584.37	46,992.09	56,507.88
C. P. Center	26,347.88	31,199.02	36,466.97	36,541.08	44,255.57	44,327.15
Rheumatic Fever Center[1]	8,832.60	4,597.92	4,988.87	5,769.91		
Appliances	5,452.85	4,606.38	6,307.72	6,841.57	5,363.20	5,889.62
Cleft Palate					38,179.64	44,009.87
PUBLIC HEALTH NURSING	(18,183.80)	(23,967.68)	(19,558.03)	(17,128.46)	(15,766.93)	(23,879.55)
HEALTH EDUCATION	(39,334.74)	(33,349.70)	(37,700.11)	(29,060.98)	(36,431.74)	(43,398.05)
General	33,744.71	27,293.50	30,975.36	21,360.70	33,697.91	37,621.02
Narcotics Education	5,590.03	6,056.20	6,724.75	7,700.28	2,733 83	5,777.03
ENVIRONMENTAL SANITATION	(67,955.75)	(59,636.87)	(53,817 52)	(56,791.05)	(72,696.13)	(89,725.36)
General						57,790.54
Water Pollution						31,934.82
LABORATORIES	(54,222.12)	(48,125.23)	(47,609.35)	(52,911.25)	(84,443.36)	(121,672.59)
Bacteriological	54,222.12	48,125.23	47,609.35	52,911.25	54,042.14	72,826.78
Virus					30,401.22	48,845.81
HOSPITAL FACILITIES	(20,975.60)	(16,990.38)	(15,776.53)	(20,730.84)	(25,182.86)	(28,930.19)
DENTAL HEALTH	(14,388.02)	(12,181.77)	(13,497.34)	(16,948.16)	(16,167.78)	(11,101.94)
LOCAL HEALTH SERVICES	(64,058.52)	(55,819.94)	(52,552.96)	(36,570.49)	(70,063.41)	(56,386.58)
General	15,853.76	7,911.25	8,697.04	10,251.91	13,567.96	3,328.52
Aid to Local Areas	48,204.76	47,908.69	43,855.92	28,318.58	56,495.45	53,058.06
TOTAL	869,055.91	637,319.97	660,792.91	795,106.49	854 877.49	872,224 56

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[1] Rheumatic Fever Center changed to Heart Diagnostic Center in 1957.

[2] Included in Project Totals.

[3] Refunds exceeded expenditures.

SUMMARY OF EXPENDITURES AND ENCUMBRANCES, by Sources

		JULY 1, 1956 TO JUNE 30, 1957			JULY 1, 1957 TO JUNE 30, 1958		
	Contributions	State	Federal	Total	State	Federal	Total
ADMINISTRATION		(80,334.27)	(56,492.13)	(136,826.40)	(80,674.63)	(56,914.75)	(137,589.38)
General		53,847.62	37,240.41	91,088.03	44,469.62	39,417.56	83,914.18
Vital Statistics		26,486 65	1,966.43	28,453.08	36,178.01		36,178.01
Merit System			7,520.10	7,520.10		8,024.17	8,024.17
Training			9,765.19	9,765.19		9,473 02	9,473.02
DISEASE CONTROL	(2,361.38)	(40,284.96)	(108,823.65)	(151,469.99)	(37,553.14)	(51,958.39)	(89,511.53)
General		34,719.96	23,707.95	58,427.91	38,205.46	33,393.41	71,598.87
Polio Vaccine Distribution & Use			75,086.82	75,086.82			
Chest X-Ray Survey	2,361.38		3,644.93	6,006.31			
Drugs and Biologics		5,565.00		5,565.00	—652.32*		—652.32*
Heart Diagnostic Center			6,383.95	6,383.95		14,630.35	14,630.35
Venereal Disease						3,934 63	3,934.63
CHILD HEALTH SERVICES		(67,738.81)	(178,090.08)	(245,828.89)	(77,144.39)	(192,835.00)	(270,029 39)
Maternal and Child Health		6,465.09	39,989.41	46,454.50	3,221.48	39 657.49	42,878.97
Crippled Children		15,352.72	12,115.19	27,467.91	17,635.40	14,048.24	31,683.64
Clinics & Auxiliary Services		8,203.34	28,912.64	37,115.98	11,300.28	33,431.98	44,732.26
Hospitalization		10,824.03	36,168.06	46,992.09	18,632.48	37,875.40	56,507.88
C. P. Center		26,893.63	17,361.94	44,255 57	26,354 75	17,972.40	44,327.15
Appliances			5,363.20	5,363.20		5,889.62	5,889.62
Cleft Palate			38,179.64	38,179 64		44,009.87	44,009.87
PUBLIC HEALTH NURSING		(7,397.82)	(8,369.11)	(15,766.93)	(13,053.34)	(10,826.21)	(23,879.55)
HEALTH EDUCATION		(14,584.17)	(21,847.57)	(36,431.74)	(23,505.62)	(19,892.43)	(43,398.05)
General		11,850.34	21,847.57	33,697.91	17,728.59	19,892.43	37,621.02
Narcotics and Alcohol		2,733.83		2,733.83	5,777.03		5,777.03
ENVIRONMENTAL SANITATION		(45,383.13)	(27,313.00)	(72,696.13)	(55,713.57)	(34,011.79)	(89,725.36)
General					42,891.75	14,898.79	57,790.54
Water Pollution					12,821.82	19,113.00	31,934.82
LABORATORIES		(33,369.24)	(51,074.12)	(84,443.36)	(61,661.21)	(60,011.38)	(121,672.59)
Bacteriological		33,369.24	20,672.90	54,042.14	61,661.21	11,165.57	72,826.78
Virology			30,401.22	30,401.22		48,845.81	48,845.81
HOSPITAL FACILITIES		(25,182.86)		(25,182.86)	(28,915.25)	(14.94)	(28,930.19)
DENTAL HEALTH		(4,904.27)	(11,263.51)	(16,167.78)	(7,895.97)	(3,205.97)	(11,101.94
LOCAL HEALTH SERVICES		(9,585.78)	(60,477.63)	(70,063.41)	(10,904.82)	(45,481.76)	(56 386.53)
General		4,875.21	8,692.75	13,567.96	1,905.68	1.422.84	3,328.52
Aid to Local Areas		4,710.57	51,784.88	56,495.45	8,999.14	44,058.92	53,058.06
TOTAL	2,361.38	328,765.31	523,750.80	854,877 49	397,021.94	475,202.62	872,224.56

* Refunds exceeded expenditures.

TABLE 1

Summary of State Board of Health Expenditures and Encumbrances by Object— Fiscal Years 1957 and 1958— State, Federal and Private Funds, Exclusive of Construction Grants

Object	July 1, 1956 June 30, 1957	July 1, 1957 June 30, 1958	Total
Salaries	$ 417,579.29	$ 472,513.21	$ 890,092.50
Travel	37,478.15	40,101.15	77,579.30
Social Security	8,008.52	8,678.60	16,687.12
P. E. R. S.	13,956.57	15,476.39	29,432.96
Office Expense	48,531.83	76,125.85	124,657.68
Scientific Supplies	51,179.20	59,520.95	110,700.15
Polio Vaccine Distribution & Use	75,086.82		75,086.82
Merit System	7,520.10	8,024.17	15,544.27
Training	9,765.19	9,473.02	19,238.21
Drs. Fees, Clinics & X-Rays	54,659.40	49,587.98	104,247.38
Hospitalization	60,796.04	66,354.65	127,150.69
Appliances	6,495.07	5,889.62	12,384.69
Miscellaneous	7,325.86	7,420.91	14,746.77
Aid to Local Areas	56,495.45	53,058.06	109,553.51
	$ 854,877.49*	$ 872,224.56*	$1,727,102.05

*Encumbrances — 1957—$ 45,398.97
1958— 33,020.15

U. S. PUBLIC HEALTH SERVICE & U. S. CHILDREN'S BUREAU FUNDS IN STATE BOARD OF HEALTH BUDGETS 1952-59

	Total P.H.S.	General	Hospital	W.P.	V.D.	T.B.	Cancer	Cancer (Special)	Heart	Polio	Indian	CDC
1959 Budget	188,961.00	77,200.00		18,300.00	6,065.00	16,500.00	11,900.00		15,100.00		41,896.00	2,000.00
1958 Expended	196,374.40	80,306.21	14.94	19,113.00	3,934.63	20,853.00	12,788.73		16,481.53		33,332.37	9,549.99
Budget	202,558.15	80,306.21	14.94	19,113.00	5,000.00	20,853.00	12,789.00		16,482.00		38,200.00	9,800.00
1957 Expended	268,318.31	65,972.95		10,215.00		20,092.00	12,936.48		15,833.56	107,410.55	35,857.77	
Budget	271,938.25	65,992.00		10,215.00	3,600.00	20,092.00	12,936.48		15,834.00	107,411.00	35,857.77	
1956 Expended	229,380.12	53,438.13	7,083.59			19,725.30	12,980.00		12,751.00	123,402.10		
Budget	246,966.43	53,438.13	8,000.00			19,725.30	12,980.00		12,751.00	140,072.00		
1955 Expended	96,407.37	51,728.93	108.44			19,113.00	12,611.00		12,846.00			
Budget	96,422.31	51,728.93	123.38			19,113.00	12,611.00		12,846.00			
1954 Expended	109,466.52	52,922.66	1,121.68	2,409.65	1,666.65	19,088.76	12,900.57	5,910.79	13,445.76			
Budget	109,590.19	52,922.66	1,245.00	2,410.00	1,666.65	19,088.76	12,900.57	5,910.79	13,445.76			
1953 Expended	155,483.19	68,949.67	660.00	4,630.00	16,048.38	22,180.52	17,245.43	12,055.21	13,713.98			
Budget	167,624.93	68,949.67	1,905.06	7,039.65	17,709.62	22,181.19	17,290.00	17,966.00	14,583.74			
1952 Expended	151,327.00	70,812.00	3,297.00	7,262.00	18,030.00	23,863.00	16,271.00		11,792.00			
Budget	184,929.00	79,891.00	5,202.00	14,302.00	19,072.00	30,806.00	18,412.00		17,244.00			

W.P. — Water Pollution

V.D. — Venereal Disease

T.B. — Tuberculosis

CDC — Communicable Disease Center

Polio and Asian Influenza Laboratory Grant

	Ch. Bur. Total	M.C.H. (A)	M.C.H. (B)	C.C. (A)	C.C. (B)
1959 Budget	263,973.00	81,349.00	30,000.00	77,624.00	75,000.00
1958 Expended	277,966.23	80,712.80	42,407.96	78,201.47	76,644.00
Budget	296,439.00	90,159.00	42,408.00	87,077.00	76,795.00
1957 Expended	255,432.49	71,802.24	33,239.43	69,674.38	80,716.44
Budget	281,935.00	79,911.00	33,240.00	78,868.00	89,916.00
1956 Expended	227,214.54	65,955.02	25,920.24	81,781.28	53,558.00
Budget	228,496.19	67,236.67	25,920.24	81,781.28	53,558.00
1955 Expended	199,293.88	55,906.58	26,128.79	68,110.51	49,148.00
Budget	212,158.83	64,445.25	26,128.79	72,436.79	49,148.00
1954 Expended	215,333.07	71,371.63	26,528.93	83,643.89	33,788.62
Budget	228,334.30	77,396.03	26,528.93	90,581.34	33,828.00
1953 Expended	230,772.03	68,996.24	49,625.55	44,740.42	67,409.82
Budget	283,862.49	87,381.27	49,626.46	79,444.76	67,410.00
1952 Expended	170,522.00	46,155.00	27,472.00	38,947.00	57,948.00
Budget	232,624.00	85,358.00	29,547.00	57,120.00	60,599.00

M.C.H. (A)—Maternal & Child Health funds that must be matched with state funds.

M.C.H. (B)—Maternal & Child Health funds that need not be matched with state funds, but can not be used until MCH 'A' funds are budgeted with required matching.

C.C. (A)—Crippled Children funds that must be matched with state funds.

C.C. (B)—Crippled Children funds that need not be matched with state funds, but can not be used until CC 'A' funds have been budgeted with required matching.

Footnote: Public Health Service funds are available on a variety of matching bases, depending on the type of funds; unused funds of most categories lapse each year.

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are available from
STATE BOARD OF HEALTH
Helena, Montana

TEAM MANAGEMENT OF CLEFT PALATE CASES IN MONTANA
TEAMWORK IN ACTION
DIAGNOSTIC AND THERAPEUTIC AIDS

29th Biennial Report 1956-1958

MONTANA STATE BOARD OF HEALTH

McKee Print.